# ARCTIC BIBLIOGRAPHY

PREPARED FOR AND IN COOPERATION WITH
THE DEPARTMENT OF DEFENSE

UNDER THE DIRECTION OF

THE ARCTIC INSTITUTE OF NORTH AMERICA

EDITED BY
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VOL. VIII



DEPARTMENT OF DEFENSE

1959

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### **FOREWORD**

The work of the Arctic Bibliography project, under the direction of Marie Tremaine, has continued with the preparation and publication of Volume 8 of Arctic Bibliography. As in past years the work has been carried out by the Arctic Institute of North America for the Department of Defense under contract with the Office of Naval Research. Funds for preparation of the present volume have been provided by the Departments of the Army, Navy, and Air Force, and printing costs have been assumed by the Department of the Air Force. A contribution from the Defence Research Board of Canada is also gratefully acknowledged.

The Library of Congress has provided office space for the project and most of the work has been carried out there. However, the facilities of many other large libraries in the United States and Canada and of polar research institutes in England, France, and Norway have also been utilized in assembling the materials for volume 8.

Continuing its coverage of the entire range of scientific literature on the arctic and subarctic regions of the world, this volume of Arctic Bibliography abstracts and indexes the contents of 5,623 publications relating to the arctic areas and to low temperature conditions. Subject fields receiving special emphasis in this volume include Body systems, human and other; Botany; Construction; Disease; Ecology; Economic and social conditions; Environmental effects of darkness, light, and low temperature on man, animals, and plants; Eskimos; Expeditions, especially Russian; Fishes and fisheries; Frostbite; Geology; Hypothermia; Ice and ice conditions; Insects; Meteorology; Mineral resources; Oceanography; Physiology; Snow; Transportation. These and some 230 other topics are listed alphabetically in the index and, as necessary, also under the name of the particular locality or major geographical region to which they pertain. There are 69 such major geographical regions, shown and numbered on the colored map at end of volume; of these, 18 include the Arctic Basin and adjacent seas, 6 are in Alaska, 17 in Canada, 5 in Greenland, 8 in Scandinavia and Finland, and 15 in the U.S.S.R.

Of the 5,623 publications abstracted in this volume, 2,762 are in English, 1,489 in Russian, 330 in German, 321 in Swedish, 229 in Norwegian, 129 in Danish. The remaining 363 entries are in French, Italian, Finnish, and 14 other languages. About four-fifths (4,549) of the publications are recent, dating from 1950 to 1956; 365 are from the period 1940–49, 393 from 1920–39, 125 from 1900–19, 190 from 1800–99, and 1 is pre-19th century. Included in the older material are the first published abstracts of the British Parliamentary Papers, an important source of geographical and historical data resulting from 19th-century British expeditions to the Canadian Arctic.

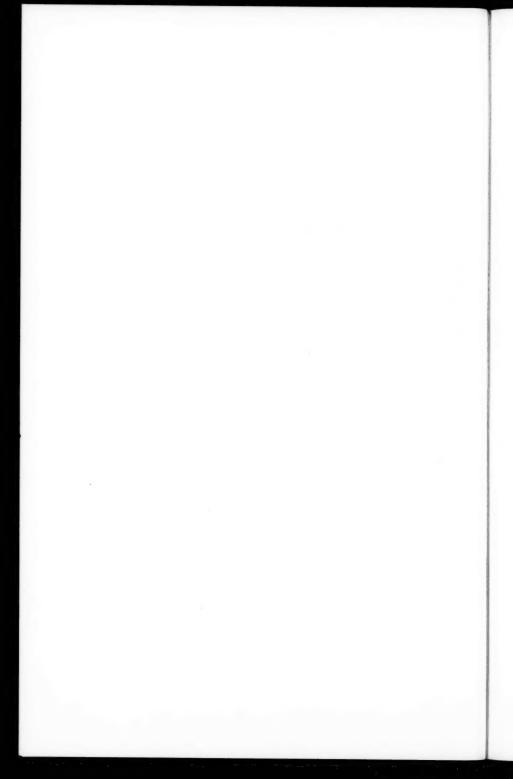
Because of intensified investigations during and subsequent to World War II there has been in recent years a marked increase in the number of scientific publications relating to the Arctic and sub-Arctic. These are now appearing at the rate of from 3,500 to 4,000 per year. About 95 percent of recent and current arctic publications are articles in journals, rather than books. These are widely scattered and in many languages, as may be seen from the list (p. xi) of journals and serial publications that have provided materials for *Arctic Bibliography*. Not included in this list are some 1,200 other journals and serials from which only one or two papers have been obtained.

The Directing Committee and Editor wish to acknowledge the generous cooperation of the Library of Congress in making working space available for the project, and of the Department of Defense and the Canadian Government whose support have made possible the preparation and publication of this volume.

Henry B. Collins Chairman, Directing Committee Arctic Bibliography

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### INTRODUCTION

The advances in construction, transport, communications, and air mapping noticed in volume 7 of Arctic Bibliography are controlling factors in trends of arctic work reported in the literature of volume 8. These advances have an added impetus from research programs initiated in the south polar regions and for the International Geophysical Year generally. A common pattern of resource development and settlement is discernible in all countries facing the arctic seas. Its conspicuous features are the exploitation of mineralized areas, of marine and fresh-water fisheries: conservation and management of forest and wildlife resources; agricultural experimentation; defense installation and town building; establishment of educational and public health facilities. These developments accompany the expansion of air services, the environmental adaptation of people penetrating northward and of their techniques, with a corresponding cultural adaptation of northern natives. This new, circumpolar, economy is the outgrowth from basic research and expeditionary work reported through 1956 in eight volumes of Arctic Bibliography, and in the materials of 1957 and 1958 now assembled for volume 9.

Outstanding among the research results reported in the present volume are those of Somov's party in the Arctic Basin, now in English translation, and the Greenland icecap investigations of U.S. parties, the British North Greenland Expedition, and Expéditions polaires françaises. From earlier investigations, results of Axel Hamberg and associates' studies in the high mountain regions of north Sweden, reports of Breĭtfus' Murman and of Pakhtusov's Novaya Zemlya expeditions and the British Franklin Search voyages have been included in this volume. In some fields, comprehensive reference works coordinate the results of many scientists' work: the Russian Academy of Sciences volume on the peoples of Siberia and that on the plant cover of the U.S.S.R.,

Shereshevskii's handbook of the arctic hunter, and the marine atlas of the Russian Naval Ministry, the U.S. Office of Naval Operations' *Canadian North*, and Dr. Taylor's volumes on the Queen Elizabeth Islands among others.

Marie Tremaine Director of the Arctic Bibliography Project

February 1959

### ARCTIC BIBLIOGRAPHY PROJECT STAFF

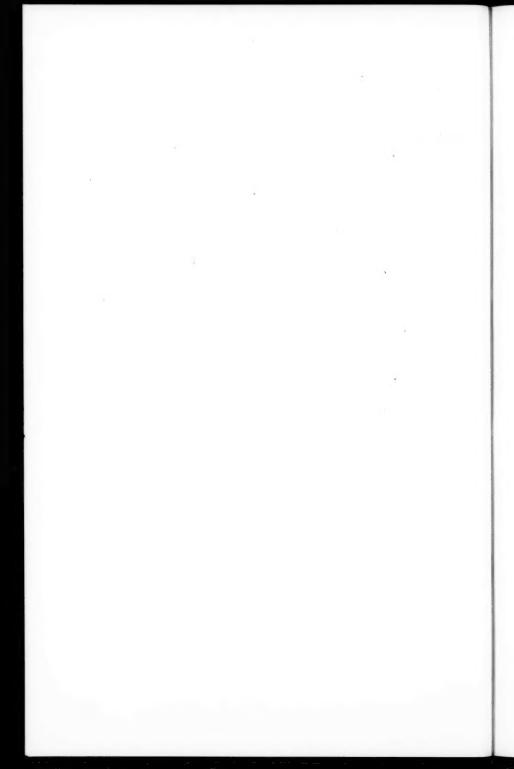
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Dr. Vladas Viliamas, Research analyst in Geography, Geology David B. Washington, Chief Clerk



### JOURNALS CITED IN THE ARCTIC BIBLIOGRAPHY

\*Åbo, Finland. Akademi. Acta . . . mathematica et physica.

Årbøger for nordisk oldkyndighed og historie. København.

Abisko naturvetenskapliga station. Observations météorologiques à Abisko. Uppsala.

Académie de Chirurgie, Paris. Mémoires.

Académie de Médecine, Paris. Bulletin.

\*Académie des Sciences, Paris. Comptes-rendus.

Académie polonaise des Sciences. See Polska Akademia Nauk.

Académie royale des Sciences des Lettres et des Beaux-Arts de Belgique, Bruxelles. Classe des Sciences. Bulletins.

Academy of Natural Sciences of Philadelphia. Notulae naturae.

Academy of Natural Sciences of Philadelphia. Proceedings.

Accademia dei Fisiocritici, Siena. Atti.

Accademia medica lombarda, Milano. Atti.

Accademia nazionale dei Lincei, Roma.
Classe di scienze fisiche, matematiche e naturali. Atti . . .
Rendiconti.

\*Acta agriculturae scandinavica. Stockholm.

Acta anaesthesiologica. Padova.

Acta anatomica. Basel.

\*Acta archaeologica. København.

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\*Acta borealia. Tromsø.

\*Acta botanica fennica. Helsinki.

Acta chirurgica scandinavica. Stockholm.

Acta chirurgica scandinavica. Stockholm. Supplementum.

\*Acta entomologica fennica. Helsinki.

Acta florae sueciae. Stockholm.

\*Acta forestalia fennica. Helsinki.

\*Acta geographica. Helsinki.

\*Acta geologica polonica. Warszawa.

\*Acta horti Bergiani. Stockholm. \*Acta lapponica. Stockholm.

Acta medica iugoslavica. Beograd.

Acta medica scandinavica. Stockholm.

Acta neurologica. Napoli.

Acta neurovegetativa. Wien.

Acta odontologica scandinavica. Stockholm.

Acta ophthalmologica. København. Acta oto-laryngologica. Stockholm. Acta paediatrica. Uppsala.

Acta pathologica et microbiologica scandinavica. København.

Acta physiologica. Budapest.

Acta physiologica et pharmacologica neerlandica. Amsterdam.

Acta physiologica polonica. Warszawa.

\*Acta physiologica scandinavica. Stockholm.

\*Acta phytogeographica suecica. Uppsala.

Acta psychiatrica et neurologica. København.

<sup>\*</sup>This list is revised from that in vol. 1 to include journals cited through all the volumes of AB, including vol. 9 in preparation. Of current journals, those regularly searched, as more important for arctic studies, are indicated:\*.

Acta tuberculosea scandinavica. København.

\*Acta zoologica fennica. Helsinki.

\*Actualité économique. Montreal. \*Actualités scientifiques et industri-

elles. Paris.

\*Advancement of science. London. Advances in biological and medical physics. New York.

\*Acro, Monatszeitschrift für das gesamte Flugwesen. München.

\*Aero digest. N.Y.

\*Aeronautical engineering review. Easton, Pa.

\*Aeronautics. London.

Aeroplane. London.

Arztliche Forschung. Bad Wörishofen. Ärztliche Wochenschrift. Berlin.

Agricultural engineering. St. Joseph, Mich.

Agricultural Institute review. Ottawa.

\*Agrobiologia. Moskva.

Air affairs. Washington, D.C.

Air conditioning, heating and ventilating. N.Y.

Air facts. N.Y.

\*Air force. Washington, D.C.

Air pictorial and Air Reserve gazette. London.

\*Air power. London.

Air-sea safety. Washington, D.C. Air surgeon's bulletin. Washington, D.C.

\*Air University quarterly review. Montgomery, Ala.

\*Aircraft. Toronto.

Akademie der Wissenschaften, Berlin. Monatsberichte.

Akademie der Wissenschaften, Berlin. Sitzungsberichte.

Akademie der Wissenschaften, Berlin. Physikalisch-mathematische Klasse. Sitzungsberichte.

Akademie der Wissenschaften, Leipzig. Berichte über die Verhandlungen.

Akademie der Wissenschaften, Leipzig. Mathematisch-physische Klasse. Berichte.

Akademie der Wissenschaften, München. Mathematisch-naturwissen-

schaftliche Abteilung. Abhandlungen.

Akademie der Wissenschaften, Wien. Mathematisch - naturwissenschaftliche Klasse. Denkschriften.

Akademie der Wissenschaften, Wien. Mathematisch - naturwissenschaftliche Klasse. Sitzungsberichte.

Akademie der Wissenschaften, Wien. Philosophisch-historische Klasse. Sitzungsberichte.

Akademiîa nauk SSSR. Moskva:

Bulletin.

Bulletin scientifique.

\*Comptes rendus.

\*Doklady. Novaîa seriia.

Izvestiîa. Seriia 5. Izvestiîa. Seriia 6.

\*Izvestiia. Otdelenie literatury i iazyka.

Izvestiia. Otdelenie matematicheskikh i estestvennykh nauk.

Izvestiia. Otdelenie obshchestvennykh nauk.

\*Izvestiia. Otdelenie tekhnicheskikh nauk.

\*Izvestiia. Seriia biologicheskaia. \*Izvestiia. Seriia fizicheskaia.

\*Izvestiia. Seriia geofizicheskaia. \*Izvestiia. Seriia geograficheskaia.

Izvestiia. Seriia geograficheskaia i geofizicheskaia.

\*Izvestiîa. Seriîa geologicheskaîa. Mélanges russes.

Mémoires.

Mémoires . . . par divers savants. Nova acta.

\*Vestnik.

\*Zapiski.

\*Biogeokhimicheskaîa laboratoriia Trudy.

\*Botanicheskii institut. Botanicheskie materialy gerbariia.

\*Botanicheskii institut. Materialy po istorii flory i rastitel nosti SSSR.

\*Botanicheskii institut. Otdel sporovykh rastenii. Botanicheskie materialy. Botanicheskiĭ institut. Sbornik nauchnykh rabot.

Botanicheskiĭ institut. Trudy:

\*Seriia 1, Flora i sistematika vysshikh rasteniĭ.

\*Seriia 2, Sporovye rasteniia.

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\*Seriia 5, Rastitel'noe syr'e.

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\*Dal'nevostochnyĭ filial, Vladivostok. Trudy. Seriia khimicheskaia.

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Dal'nevostochnyĭ filial, Vladivostok. Vestnik.

\*Gel'mintologicheskaîa laboratoriîa. Trudy.

\*Geologicheskiĭ institut. Trudy. Geologicheskiĭ muzeĭ. Trudy.

Geomorfologicheskiĭ institut. Trudy.

IAkutskiĭ filial. Yakutsk. \*Trudy. Seriia ėkonomicheskaia.

\*Trudy. Serija fizicheskaja.

\*IAkutskiĭ filial, Yakutsk. Institut biologii. Trudy.

Ikhtiologicheskaia komissiia. Trudy soveshchanii.

Ikhtiologicheskaîa komissiîa. See also Voprosy ikhtiologii. \*Institut antropologii, arkheologii i ėtnografii. Trudy.

\*Institut ėtnografii. Kratkie soobshcheniia.

\*Institut ėtnografii. Trudy.

\*Institut fiziologii im. I. P. Pavlova. Trudy.

Institut genetiki. Trudy.

\*Institut geografii. Trudy.

\*Institut geologicheskikh nauk. Trudy.

\*Institut geologii rudnykh mestorozhdeniĭ, petrografii, mineralogii i geokhimii. Trudy.

\*Institut iazykoznaniia. Doklady i soobshcheniia.

\*Institut îazykoznaniîa. Trudy.

\*Institut istorii: Istoricheskiĭ arkhiv.

\*Institut istorii. Vestnik drevneĭ istorii.

\*Institut istorii estestvoznaniia. Trudy.

\*Institut istorii material'noï kul'tury. Kratkie soobshcheniia o dokladakh i polevykh issledovaniiakh.

\*Institut istorii material'noï kul'tury. Materialy i issledovaniia po arkheologii SSSR,

\*Institut lesa. Trudy.

\*Institut merzlotovedeniîa im. V. A. Obrucheva. Trudy.

\*Institut merzlotovedeniia im. V. A. Obrucheva. IAkutskaia nauchno - issledovatel'skaia merzlotnaia stantsiia. Issledovaniia vechnoi merzloty v IAkutskoi respublike.

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\*Kamchatskaia vulkanologicheskaia stantsiia. Biulleten'. Akademia nauk SSSR. Moskva— Continued

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> \*Kol'skii filial. Murmanskaia biologicheskaia stantsiia, Dal'niye Zelentsy. Trudy.

> Komissiia ėkspeditsionnykh issledovanii. Materialy.

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Komissiia po izucheniiu plemennogo sostava naseleniia SSSR i sopredel'nykh stran. Trudy.

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\*Laboratoriîa geologii uglîa. Trudy.

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Lomonosovskii institut. See Akademiia nauk SSSR, Institut mineralogii, geokhimii i kristallografii. Mineralogicheskii muzei. Trudy. Murmanskaia biologicheskaia stantsiia, see under Ak. n. Kol'skii filial.

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\*Paleontologicheskii institut. Trudy.

Petrograficheskii institut. Trudy. Pochvennyi institut im. V. V. Dokuchaeva. Problemy sovetskogo pochvovedeniia.

Poliarnaia komissiia. Trudy.

\*Sibirskoe otdelenie. Izvestiia. Severnaia baza. Trudy.

Sovet po izucheniû proizvoditel'-

nykh sil SSSR. Trudy. Seriia dal'nevostochnaia. Seriia iakutskaia.

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Seriia karel'skaia. Seriia kol'skaia.

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Seriia sibirskaia. Seriia ural'skaia.

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Tikhookeanskii komitet. Trudy. Ural'skii filial, Sverdlovsk. Gorno-geologicheskii institut. Trudy.

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\*Zapadno-Sibirskiĭ filial. Novosibirsk. Gorno - geologicheskiĭ institut. Trudy.

Zoologicheskii institut. Issledovaniia dal'nevostochnykh morei SSSR. \*Zoologicheskiĭ institut. Opredeliteli po faune SSSR.

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\*Akademiia navuk BSSR, Minsk. Instytut torfa. Trudy.

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\*Administrative report.

\*Bulletin.

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\*Estimate of Alaska population.

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Alaska. University:

\*Anthropological papers.

Biological papers.

Miscellaneous publications.

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\*Bulletin.

\*Circular.

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\*Alaska. University. Geophysical Institute. Contributions.

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Alaska sportsman. Ketchikan.

\*Alaskan Science Conference. Proceedings.

\*Alaska's health. Juneau.

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Albrecht von Graefe's Archiv für Ophthalmologie. Berlin.

\*All hands. Washington, D.C.

Allgemeine Forst- und Jagd-Zeitung. Frankfurt am Main.

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\*Alpen. Bern.

\*Alpine journal. London.

American Academy of Arts and Sciences, Boston. Memoirs.

American Academy of Arts and Sciences, Boston. Proceedings.

American Academy of Political and Social Science, Philadelphia. Annals.

\*American alpine journal.

\*American Anthropological Association. Bulletin. \*American Anthropological Association, Memoirs.

\*American anthropologist.

\*American antiquity.

American Association for the Advancement of Science. Proceedings.

\*American Association of Petroleum Geologists. Bulletin.

\*American aviation.

American Breeders' Association. Annual report.

American Climatological Association.
Transactions.

American city.

American College of Surgeons, Chicago. See Surgical forum.

American Concrete Institute.

Journal.

American Dental Association. Journal, and Dental cosmos.

\*American Entomological Society. Memoirs.

\*American Entomological Society. Transactions.

American Ethnological Society. Proceedings.

American Ethnological Society.
Publications.

American Federation for Clinical Research. Proceedings.

\*American fern journal.

American Fisheries Society. Transactions.

\*American forests.

American Game Conference. Transactions.

American Game Protective Association. See American wildlife.

American Geographical and Statistical Society. Bulletin.

American Geographical Society of New York:

Bulletin and Journal. Research series.

Special publications.

American Geographical Society of
New York. See also Geographical

review.

American geologist.

\*American Geophysical Union. Transactions.

\*American heart journal.

\*American helicopter.

American Indian.

American Institute of Chemical Engineers. Transactions. See also Chemical engineering progress.

\*American Institute of Crop Ecology. Washington, D.C. International

agroclimatological series.

\*American Institute of Electrical Engineers. Transactions.

American Institute of Mining and Metallurgical Engineers. Technical publications.

American Institute of Mining and Metallurgical Engineers. Transactions.

American Institute of Mining and Metallurgical Engineers. See also Mining engineering.

American journal of anatomy.

\*American journal of archeology.

\*American journal of botany.

American journal of clinical nutrition. American journal of clinical pathology.

American journal of digestive diseases. American journal of diseases of chil-

dren.

American journal of hygiene.

American journal of international law. American journal of medicine.

American journal of nursing.

American journal of obstetrics and gynecology.

American journal of ophthalmology.

American journal of pathology.

\*American journal of physical anthro-

pology. American journal of physical medicine.

\*American journal of physiology.
American journal of psychiatry.

American journal of psychology.

American journal of public health.

American journal of roentgenology and radium therapy.

American journal of science.

American journal of surgery.

American journal of syphilis, gonorrhea and venereal diseases.

American journal of the medical sciences.

American journal of tropical medicine and hygiene.

\*American Medical Association.

Journal.

\*American Meteorological Society. Bulletin.

\*American Microscopical Society. Transactions.

\*American midland naturalist.

\*American mineralogist.

American Museum journal. See Natural history.

\*American Museum of Natural History, New York:

\*American Museum novitates.

Anthropological papers.

\*Bulletin. Handbook.

Memoirs.

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American Philosophical Society, Philadelphia:

\*Memoirs.

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\*Proceedings.

Transactions.

American political science review.

American practitioner and Digest of treatment.

American review of Soviet medicine.

\*American-Scandinavian review.

\*American scientist.

American Slavic and east European review.

\*American Society for Testing Materials. Bulletin.

\*American Society of Civil Engineers. Proceedings.

\*American Society of Heating and Air-Conditioning Engineers. Transactions. \*American Society of Heating and Ventilating Engineers. Journal, see Heating, piping, and air conditioning.

\*American Society of Naval Engineers. Journal.

American surgeon.

\*American Water Works Association.

Journal.

American wildlife.

Among the deep sea fishers. N.Y.

\*Amsterdam. Universiteit. Geologisch Instituut. Mededeeling.

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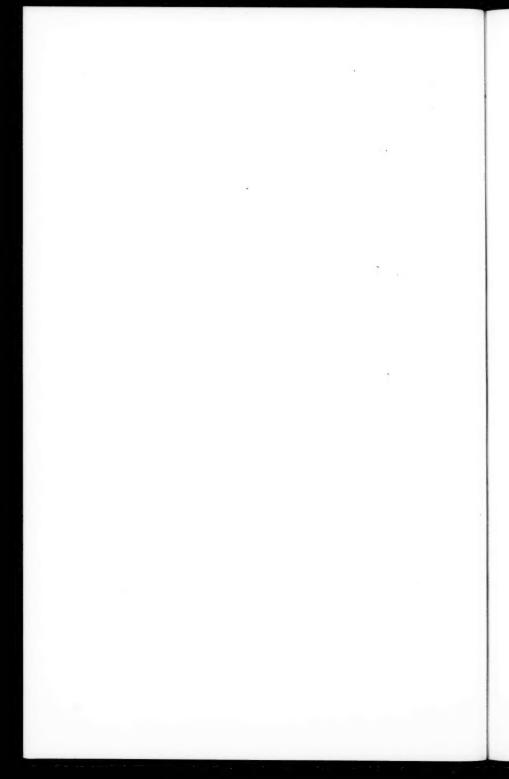
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Zoologische Jahrbücher; Abt. für Systematik, Geographie und Biologie der Tiere.

\*Zoologischer Anzeiger. Leipzig.

\*Zvezda. Moskva.



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ter, Anchorage, Alaska.

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ley, Calif. CaBV—Vancouver, B.C., Public Li-

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CaOGB—Geographical Branch, Dept. of Mines and Technical Surveys, Ottawa.

CaOH—Dept. of National Health and Welfare, Ottawa.

CaOM—Dept. of Mines and Technical Surveys, Ottawa.

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DA—U.S. Dept. of Agriculture, Washington, D.C.

DAI—Arctic Institute of North America, Washington, D.C.

DAWS—Air Weather Service, Technical Information Files, Andrews Air Base, Washington, D.C.

DBRE—Bureau of Railway Economics, Washington, D.C.

DBS—National Bureau of Standards, Washington, D.C.

DCE—Carnegie Endowment for International Peace, Washington, D.C.

DCGS—U.S. Coast & Geodetic Survey, Washington, D.C.

DCT—Carnegie Institution of Washington, Dept. of Terrestrial Magnetism, Washington, D.C.

DCU-Catholic University of Amer-

ica, Washington, D.C. DES—U.S. Corps of Engineers, Engi-

neer School, Fort Belvoir, Va. DF—U.S. Fish and Wildlife Service,

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ington, D.C. DGU—Georgetown University, Wash-

ington, D.C.
DH—National Institutes of Health,

Bethesda, Md.

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DN-HO—U.S. Navy, Hydrographic Office, Suitland, Md.

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DNR—U.S. Office of Naval Records and Library, Washington, D.C.

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DSt—U.S. Dept. of State, Washington, D.C.

DWB—U.S. Weather Bureau, Washington, D.C.

ExPF—Expéditions Polaires Françaises, Paris, France.

GB-MO—Great Britain, Meteorological Office, Harrow, England.

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MH-A—Harvard University, Arnold Arboretum, Boston, Mass.

MB-BH—Harvard University, Blue Hill Observatory, Milton 85, Mass.

MH-BL—Harvard University, Biological Laboratories, Cambridge, Mass.

MH-F—Harvard University, Farlow Reference Library of Cryptogamic Botany, Cambridge, Mass.

MH-G—Harvard University, Gray Herbarium, Cambridge, Mass.

MH-L—Harvard University, Law School, Cambridge, Mass.

MH-M—Harvard University, Medical School, Cambridge, Mass.

MH-P—Harvard University, Peabody Museum, Cambridge, Mass.

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NNC—Columbia University, New York, N.Y.

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NNE—Engineering Societies Library, New York, N.Y.

NNM—American Museum of Natural History, New York, N.Y.

NNN—New York Academy of Medicine, New York, N.Y.

NhD—Dartmouth College, Hanover, N.H.

NhD-Stef-Stefansson Library, Dartmouth College, Hanover, N.H.

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OCl—Public Library, Cleveland, Ohio.

OO—Oberlin College, Oberlin, Ohio.

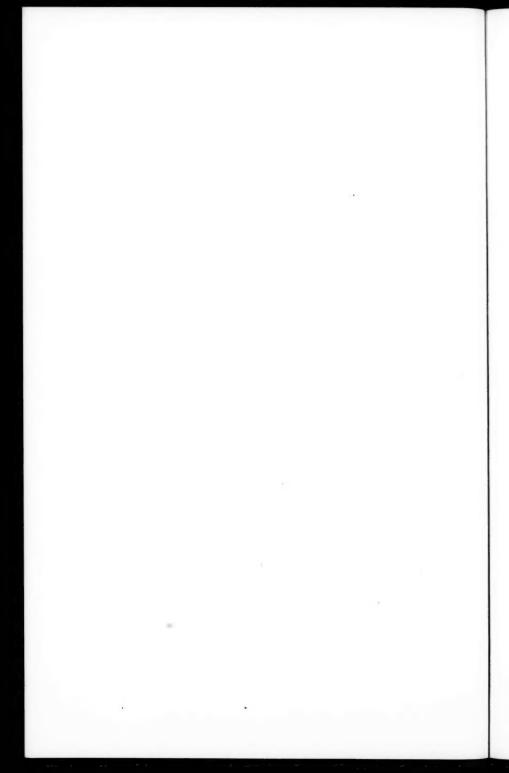
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PP—Free Library of Philadelphia, Philadelphia, Pa.

PU—University of Pennsylvania, Philadelphia, Pa.

SPRI—Scott Polar Research Institute, Cambridge, Eng.

ViU—University of Virginia, Charlottesville, Va.



## ARCTIC BIBLIOGRAPHY

43465. ÅNGSTRÖM, ANDERS KNUTSSON, 1888- . Effective radiation during the Second International Polar Year. [Stockholm, 1936.] 22 p. diagrs., tables (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden. Serien uppsatser, no. 8.) 6 refs.

Data obtained from measurements of nocturnal radiation at Stockholm from Oct. 25, 1932 to Dec. 1933 are tabulated together with accompanying data on temperature, humidity, and cloudiness. Only a preliminary analysis of the data is given.

Copy seen: DWB.

43466. ÅNGSTRÖM, ANDERS KNUTSSON, 1888— . Jordtemperaturen i bestånd av olika täthet. [Stockholm, 1936.] p. 187–218, diagrs., illus., tables. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden. Serien uppsatser, no. 5.) 4 refs. Text in Swedish. Summary in English. Title tr.: Soil temperature in stands of different densities.

Soil temperatures at depths of 15, 30, and 45 cm. were measured in spruce stands of different densities near Vindeln in northern Sweden. Summer soil temperatures were found to be 2°-3° C. higher in the heavily thinned stand than in the unthinned one. Frozen soil was found to melt 2-4 weeks earlier in the thinned stand. A small but noticeable rise in temperature was noted in the thinned stands due probably to the warming effect of the snow cover.

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43467. ÅNGSTRÖM, ANDERS KNUTSSON, 1888— . Lufttemperatur och temperaturanomalier i Sverige 1901–1930. Stockholm, 1938. 69 p. 12 plates, tables. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, bd. 7, no. 2.) 16 refs. Text in Swedish Summary in English. Title tr.: Air

temperature and temperature anomalies in Sweden, 1901-1930.

Temperature data for 188 stations were reduced to sea level and related to latitude in order to eliminate the latitudeelevation effects. A nearly linear relation was found between latitude and the mean temperature. A characteristic slope of the linear curve is derived for each month. Deviations from the mean reduced temperatures are tabulated for approximately 70 stations which give a picture of the distribution of temperature anomalies which, in turn, give a clearer picture of the maritime effects on the temperature regime. Monthly anomaly charts are also given which show isolines of deviation from the reduced temperature values.

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43468. ÅNGSTRÖM, ANDERS KNUTSSON, 1888– . Nederbördsklimatets ändring i nuvarande tid. Stockholm, 1941. 17 p. diagrs., map, table. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden. Serien uppsatser, no. 37.) 5 refs. Text in Swedish. Summary in English. *Title tr.:* The variation of the precipitation climate in present time.

The mean annual precipitation during 1901–1930 for a number of Swedish stations is compared with that for 1861–1900. A small increase was noted, amounting up to five percent for Norrland. A further indication of an increase in precipitation for northern Sweden is the slight measured increase in the duration of the snow cover from 190 to about 210 days in western Norriand.

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43469. ÅNGSTRÖM, ANDERS KNUTSSON, 1888–, and S. JACOB-SON. Temperaturmätningar i Vänern och Götaälv. Stockholm, 1940. 20 p. illus., diagrs., tables, and 10 p of graphs, 2 maps incl. 1 double fold. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, bd. 7, no. 6.) Approx. 200 refs. Text in Swedish. Summary in English. *Title tr.:* Temperature measurements in Vänern and Götaälv.

The special equipment designed to obtain accurate temperature measurements at various depths is described, and results of studies undertaken in 1930-31 are tabulated and discussed. Practically no vertical temperature gradients were found in the river Götaälv although depths ranged from 2-20 m. and velocity from 10-30 cm./sec. Large temperature gradients were found in Lake Vänern only during the summer. At the time of ice formation, the water temperature in the lake is near 0° C. at all depths. After ice covers the lake and a snow cover forms, the temperature of the river draining the lake often shows a rise in temperature, reflecting the heat gained through bottom radiation. Copy seen: DWB.

43470. ÅNGSTRÖM, ANDERS KNUTSSON, 1888– . Vädret om hösten. (Svenska turistföreningen, Stockholm. Årsskrift, 1954, p. 195–208, illus., diagr., 7 text maps.) Text in Swedish. *Title tr.*: Autumn weather.

Text and maps, from the Atlas of Sweden (No. 48290) indicate progress of fall conditions across the country from the northwestern mountains early in Aug.: dates when fall ends and winter begins, number of days duration of fall, number of days with fog in spring and fall, and occurrence of damaging frost. The mountain region to the west, especially in the northwest, stands out as a section with early and short fall season.

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43471. AARIO, LEO. Climatic changes and cultural geographic development. (In: International Geographical Union. Eighth General Assembly and Seventeenth International Congress, Washington, D. C., Aug. 8–15, 1952. Proceedings, pub. 1956? p. 265–68.)

Presents climatic developments in Europe and North Africa in the late Quaternary (approx. 8000–1000 B. C.) as result of the shifting of the wind zones; also examples of the influence of these factors on development of human habitation. This paper results from research in northern and middle Europe, and the chronology is based on development of

the Baltic, with some references to the Blytt-Sernander chronology. Climate in Fennoscandia and northern middle Europe during the Yoldia Sea to Littorina Sea phases is briefly described. Different climatic developments during this period in the far North in the Petsamo (Pechenga) area (69°33′ N. 31°12′ E.) and in southern Europe and North Africa are noted. The Petsamo area now lies on the border zone of southwest winds and arctic northeast winds. This position may explain the difference between climatic trends here and those to the south during the 8000–1000 B. C. period.

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43472. AAS, JOHAN, 1885— . Rødblomstret nøkkerose i Laupmotjønna, Naerøy. (Blyttia, 1954. bd. 12, hefte 1, p. 19–21, 2 illus.) Text in Norwegian. Summary in English. *Title tr.:* Nymphaea with red flowers found in the lake, Laupmotjønna, Naerøy.

Reports find of this red waterlily in a small lake in the Nord-Trøndelag region of northern Norway; probably it should be referred to N.candida.

Copy seen: DA.

43473. AASTVEIT, KNUT. Beskrivelse og klassifisering av 24 byggsorter. (Forskning og forsøk i landbruket, 1954. bd. 5, hefte 4, p. 249–92, 35 illus., 2 tables.) 37 refs. Text in Norwegian. Summary in English. *Title tr.:* Description and classification of 24 varieties of barley.

Includes description of the variety, Dønnes (p. 261), developed in Nordland, and Fløya (p. 266), one of the best yielders in Troms. Length of time and degree days from seeding to heading and to maturity are included in information for each variety. Copy seen: DA.

43474. ABBE, ERNST CLEVELAND, 1905— . Braya in boreal eastern America. (Rhodora, Jan. 1948, v. 50, no. 589, p. 1–15, plates 1088–90.) Pub. also as. Contrib. from the Herbarium of the University of Minnesota, no. 6.

A critical study, with keys to the species and geographic races, and descriptions of five species and six races of B. humilis, with lists of specimens. These plants are widely distributed in Greenland, northern regions of Canada, Ellesmere, Baffin and the Canadian Arctic Islands generally. B. fernaldii n. sp. is endemic to Newfoundland. Copy seen: DA.

43475. ABBOTT, IRVING W. Seed certification work in Alaska. (*In:* Alaskan Science Conference . . . 1952. Proceedings, *pub.* 1954, p. 194.)

Information is presented on the reasons for seed certification; the Alaska Certified Seed Growers' Association and its activities; seed control work of the Dept. of Agriculture, the Soil Conservation Service and the University of Alaska; control of seed diseases, etc. *Copy seen:* DGS.

43476. ABE, SANSHI, and T. NEI. The influence of exercise in low-temperature environment on the physiological functions of human body. (Teion kagaku, 1956. v. 14, ser. B, p. 87–108, illus., tables.) 11 refs. Text in Japanese. Summary in English.

Account of experiments with 21 persons exposed to -40° C. in artificial wind of 10 m/sec. Manual work and weight carrying were thus tested for an hour. Then the following physiological perimeters were ascertained: pulse, blood pressure, ECG; albumin, uribilinogen and Ogawa's colloid reaction of the urine; psycho-nervous responses; physical strength; skin temperatures, etc.

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43477. ABEZGAUZ, A. M. Pervaía pomoshch' v neschastnykh sluchaíakh i pri vnezapnykh zabolevaniíakh. (*In:* Obruchev, S. V. Spravochnik puteshestvennika, t. 1, 1949, p. 381–415, illus., tables.) 10 refs. Text in Russian. *Title tr.:* First aid in accidents and emergency sickness.

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Contains first aid instructions for common ailments under conditions of travel or expeditionary life; including such due to environment: frostbite, snow blindness, etc. A medicine chest for expeditions (61 items) is suggested.

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43478. ABOLIN, ROBERT IVANO-VICH, 1886– . K voprosu o klassifikatšii bolot Severo-Zapadno' oblasti. Moskva, 1928. 53 p. tables. (N. K. Z. Gos. institut sel'skokhozalstvennykh melioratšii.Iz rabot Sev.-Zap. obl. opytnomeliorativno' organizatšii.) Text in Russian. Title tr.: To the problem of classification of marshes in the Northwestern Province.

A study based upon extensive work in the area. Principles of classification are stated: topographic, genetic, etc.; and that applied in the present study, based on the floral cover of the swamps, is outlined. Twelve types of marshes are discussed (p. 15-53), their plant cover and species compositions, areas, yield (in cases of grassy or wooded marshes), growth rates of some cover plants, mosses and peat formation, etc.

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ABPLANALP, HANS, see Wilson, W. O., and others. The effect and after-effect . . . light on chicken development. 1956. No. 48988.

43479. ABRAMOV, M. D. Mozhno li kormit' pestsov lis'imi ratsionami. (Karakulevodstvo i zverovodstvo, Sept.-Oct. 1956. god 9, no. 5, p. 25-30, tables.) Text in Russian. *Title tr.:* Is it possible to feed arctic foxes with fox rations?

Contains information on general differences between blue for rations and those for silver foxes, followed by a study of food requirements of polar (blue) foxes made over a three-year period. Percentage of successful impregnation, number of young, their weight, digestion and protein utilization were applied as criteria of proper diet. Composition of food for young and adult animals and its cost, are also discussed. Copy seen: DLC.

43480. ABRAMOVA, A. L., and Z. N. SMIRNOVA. L. I. Savich-Líūbitŝkaſa: k 70-letiſu so dnſa rozhdenſa. (BotanicheskiI zhurnal, Oet. 1956. t. 41, no. 10, p. 1555-64, port.) 68 refs. Text in Russian. Title tr.: L. I. Savich-Lſūbiſŝkaſa; on the occasion of the 70th anniversary of her birth.

Contains biographical data and an appreciation of the scientific activities of this prominent botanist and explorer of northern regions of the U. S. S. R. Her expeditions to Kola Peninsula (1925 and 1927), Novaya Zemlya, Kolguyev and Vaygach (1935) and to Khibiny and Arkhangel'sk Province (1938) are noted. A critical review of her works, some dealing with arctic regions, and a bibliography of them are added.

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43481. ABRAMOVA, A. L. Mkhi severo-vostoka Azii. (Akademia nauk SSSR. Botanicheskii institut. Trudy, ser. 2, Sporovye rastenia, 1956. vyp. 10, p. 490–511, 11 illus.) 34 refs. Text in Russian. *Title tr.:* The mosses of northeastern Asia.

Contains a systematic annotated list of 66 species of mosses and hepatics, collected chiefly in the Anadyr' basin and the Chukotsk Peninsula. Distribution of the more interesting species (Macrodiplophyllum microdontum, M. plicatum, Sphagnum orientale and S. perfoliatum) is given from Bering Strait to Novaya Zemlya (fig. 1, 6, 7).

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43482. ABRAMOVA, A. L. Monograficheskil obzor semelstva Meesiaceae v SSSR. (Akademifa nauk SSSR. Botanicheskil institut. Trudy, ser. 2, Sporovye rasteniia, 1956. vyp. 10, p. 393-489, 30 illus., 12 text maps.) 279 refs. Text in Russian. Title tr.: A monographic review of the fam. Meesiaceae in the U.S.S.R.

Contains characteristics of this moss family, a table for determination of genera, followed by monographic treatment of three genera, five species and some varieties. Descriptions, synonyms, illustrations, exsiccata are given, also data on morphology, anatomy, ecology, habitats and geographic distribution. Six species of the genus Meesia growing outside of the U.S.S.R. are also described. The total distribution of Russian species covers practically all arctic regions of Europe, Asia and North America. Copy seen: DA.

43483. ABS, OTTO AUGUST HANS, 1891- . Literaturverzeichnis zum Artikel "Kälteschädigungen auf Polarexpeditionen." (Polarforschung, May 1956. Jahrg. 24, Heft 1-2, p. 278-80.) Text in German. *Title tr.:* Literature to the article "Cold injuries on polar expeditions."

Contains 66 references as bibliography to No. 33134; with additional notes on nervous symptoms due to the effect of cold. The references cover expeditionary and preventive medicine, cold effects and injuries, clothing, diet, hygiene, etc. Copy seen: DLC.

43484. ABS, OTTO AUGUST HANS, 1891- . Neues aus der Polarmedizin,

 (Polarforschung, May 1956. Jahrg. 24, Heft 1–2, p. 273–78.) 19 refs. Text in German. Title tr.: News of polar medicine, 1.

Contains a critical discussion of recent, non-German polar literature with comment and illustration from Abs' own experience. "Arctic hysteria" and mental strain caused by long winter darkness form the main part of the account. In addition, some animal diseases, diet, caloric intake and need, trichinosis, etc. are considered. Copy seen: DLC.

ACHKASOVA, T. A., see Girgolav, S. S., and T. A. Achkasova. O temperaturnom rezhime tkanel . . . 1956. No. 45125.

43485. ACLAND, C. M., and others. Fågelobservationer i Lappland. (Fauna och flora 1956. häfte 4, p. 162-73, illus.) 6 refs. Text in Swedish. Summary in English. Title tr.: Bird observations in Lapland. Other authors: V. C. Maxse and D. B. Peakall.

Contains account of three weeks' birdwatching around Abisko (68°20' N. 19° E.) in north Sweden in the early summer of 1955: 81 species observed. A nest with three young of Pinicola enucleator was found almost on the tree line, the second such record beyond the pine limit. Woodcock (Scolopax rusticola) was flushed at Abiskojaure, a second record for the district; and the first laughing gulls (Larus ridibundus) recorded for lake Torneträsk were observed. Copy seen: DLC.

43486. ADAMANIS, V. F. Lechenie ékspedifsionnykh zhivotnykh i ukhod za nimi. (In: Obruchev, S. V. Spravochnik puteshestvennika, t. 1, 1949, p. 416-45, illus.) 21 refs. Text in Russian. Title tr.: The treatment and care of expeditionary animals.

Contains basic information on forage, feeding and watering, and diseases of transport animals, including reindeer and sled dogs. Poisonous plants (17) occurring in pastures are listed with Russian and Latin names, notes on distribution, poisonous component, antidote, etc. Copy seen: DLC.

43487. ADAMOV, ARKADIÍ GRIGO-R'EVICH, 1920- . Po neizvedannym putíam. Leningrad. Goskul'tprosvetizdat, 1950. 136 p. illus., fold. map. Text in Russian. Title tr.: On unknown roads.

Sketches of Russian exploration and administration in former Russian possessions in North America, presented in form of stories of the activities of Aleksandr Andreevich Baranov, 1745-1819, first director of the Russian-American Co. (p. 7-48); Kirill Timofeevich Khlebnikov, 1776 (1780?)-1838, director of the Company (p. 44-80); Aleksandr Filippovich Kashevarov, 1809-1870 (1866?), sailor and cartographer born in Alaska (p. 81-104); and Lavrentii Alekseevich Zagoskin, 1808-1890, explorer of Alaska (p. 105-134).

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43488. ADAMS-RAY, JACK. Hypotermi, ett nytt medel inom läkekonsten, 1; historik och teknik. (Nordisk medicin, 1956. bd. 56, no. 44, p. 1581–82.) 13 refs. Text in Swedish. Summary in English. *Title tr.:* Hypothermia, a new means in medicine, 1; history and technique.

An outline of medical application of hypothermia and research into its physiology and pathology. Cooling methods are described, with emphasis on those used in Sweden, their merits and demerits. Other papers in this series are by P. Lindgren and E. Nilsson, qq. v. Copy seen: DNLM.

ADAMS-RAY, JACK, see also Bellman, S., and J. Adams-Ray. Vascular reactions . . . cold injury . . . microangiographic study . . . 1956. No. 43939.

ADELSON, EDWARD, see Villalobos, T. J., and others. The effect . . . hypothermia on platelets and white cells . . . 1956. No. 48755.

43489. ADMINISTRATIVNO-TERRITORIAL'NOE DELENIE RSFSR NA 1 ÎANVARÎA 1955 GODA. Moskva, Izd-vo "Izvestifa sovetov deputatov trudfashchikhsfa SSSR," 1955. 440 p. (Informatŝionno-statisticheskil otdel pri Prezidiume Verkhovnogo Soveta RSFSR.) Text in Russian. Title tr.: The administrative territorial division of the R. S. F. S. R. to January 1, 1955. Previous editions in 1947, 1950.

The RSFSR., 16,896,000 sq. km. in area, is divided into six regions (kray), 53 provinces (oblast') and 12 autonomous republics; these in turn, are divided and subdivided into 12 autonomous provinces, 10 national districts and 2,446 districts; 1,124 towns and cities, 1,285 workers' settlements and health resorts, and 27,401 villages with village councils (sel'skil sovet) are within the RSFSR. names of all these administrative units are given by region and province, and are listed (except the villages) in an alphabetical index. Administrative units covering the arctic and sub-arctic areas are included: Krasnoyarskiy Kray with Taymyrskiy (Dolgano-Nenetskiy) and Evenkiyskiy National Districts (p. 18-33); Kamehatskaya Oblast' with Koryakskiy National District (p. 42-44); Arkhangel'skaya Oblast' with Nenetskiy National District (p. 57-61); Magadanskaya Oblast' with Chukotskiy National District (p. 187-90); Murmanskaya Oblast' (p. 211-12); Tyumenskaya Oblast' with Khanty-Mansiyskiy National District (p. 301-308); Komi A. S. S. R. with the towns of Vorkuta, Ukhta and Inta (p. 367-69); Yakut A. S. S. R. (p. 390-94). The arctic islands are only mentioned: Severnaya Zemlya (p. 27), Novaya Zemlya, Zemlya Frantsa-Iosifa, Kolguyev, Vaygach, Matveyend Solovetskiye (p. 58), Vrangel and Geral'd (p. 190). Copy seen: DLC.

43490. ADOLPH, EDWARD FRED-ERICK, 1895-, and J. RICHMOND. Adaptation to cold in golden hamster and ground squirrel measured chiefly by rates of body cooling. (Journal of applied physiology, July 1956. v. 9., no. 1, p. 53-58, illus., tables.) 7 refs.

A study of animals exposed to cold environments and to variously induced hypothermias, aimed to ascertain which is most efficient in producing cold adaptation. Moderate, general hypothermia proved the most adequate stimulus in this respect. Hamster, squirrel and rat showed similar kinds of physiological modifications in the cold adapted state. *Copy seen:* DNLM.

43491. ADOLPH, EDWARD FRED-ERICK, 1895—. Effects of low body temperature on tissue oxygen utilization. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 44–49, illus.) 24 refs.

An analysis of the fundamental problem whether or not hypothermic death is due to lack of O<sub>2</sub>, as claimed by a number of investigators. Oxygen delivery to the cell enzymes is discussed in its successive stages of breathing, circulation, O<sub>2</sub>-transport in blood, tissue pO<sub>2</sub> and O<sub>2</sub>-transfer in cells. In all these stages oxygen sufficiency was found during deep hypothermia. The author concludes "that cold death results from changes other than failure of oxydation." Copy seen: DLC.

43492. ADOLPH, EDWARD FRED-ERICK, 1895-, and J. RICHMOND. Water exchanges of isolated mammalian tissues at low temperatures. (American journal of physiology, Dec. 1956. v. 187, no. 3, p. 437-44, illus., tables.) 3 refs. Reports investigation of isolated diaphragm, auricle, liver and kidney (the two latter also in slices) from rats and ground squirrels. At  $6^{\circ}$  and  $16^{\circ}$  C. the tissues took up water from isotonic saline. Both warmth and  $O_2$  were necessary to resist this swelling. The changes due to cold, anoxia, etc., were reversible.

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43493. AFANAS'EV, M. S. Mestorozhdenie lovchorrita na lŪkspore. (*In:* Khibinskie apatity, 1933. t. 6, p. 105–107). Text in Russian. *Title tr.:* Lovchorrite

formations in Yukspor.

Location and sequence of the lovehorrite formations is described as, geochemically, a component of the rare
earth arch. Geological structure is
noted, with location of various types
of mica-nephelinic syenites, containing
lovehorrite. Total capacity of the
formation is estimated as approx. 8,000
tons. New radiometric method used
in the surveying work showed satisfactory
results. Copy seen: DGS.

43494. AFANAS'EV, V. A. Zametki o skandinavskom zverovodstve. (Karakulevodstvo i zverovodstvo, 1956. god 9, no. 3, p. 52–58; no. 4, p. 54–58; no. 5, p. 47–53, illus. tables.) Text in Russian. *Title tr.* Notes on Scandinavian fur farming.

A review of 1955 conditions in this field, which includes arctic and silver fox farming. Deals with markets and exports, kinds of animals bred, types of farms, research. Ways of raising animals is treated in some detail and with illus.: housing, service, food, propagation, care of the young, etc. Copy seen: DLC.

43495. AGAPITOV, N. N. Svíedieniía o vskrytii i zamerzanii ríčk Vostochnof Sibiri s 1874 po 1881. (Vsesofůznoe geograficheskoe obshchestvo. Vostochno-Sibirskii otdel. Izvestiía, May 1881. t. 12, no. 1, p. 29–35, tables.) Text in Russian. Title tr.: Data on the opening and freezing of rivers in eastern Siberia from 1874 to 1881.

Ice conditions of the main Siberian rivers, the Lena, Yenisey, Angara among others, are analyzed for the period 1874–1881. Rivers flowing from south to north open earlier in the upper reaches and freeze earlier in the lower. Extreme dates for the ice period range from mid-Sept. to early June. Annual data on break-up and freeze-up are tabulated for

several points on the main rivers and their tributaries, also for lakes and bays.

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43496. AGEE, WALTER R. Significance of polar exploration by air. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1943, p. 140–43.)
Contains brief historical survey of

Contains brief historical survey of early air exploration of the Arctic: flights of Andrée, Amundsen, Byrd, Eielsen, Nobile, Levanevskii. The U. S. Air Force Ptarmigan flights and current ice island activities are noted.

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AGERSBORG, HELMER P., Jr., see Barlow, G., and others. Blood . . . 17-hydroxycorticosteroids . . . hypothermic dogs. 1956. No. 43874.

43497. AGRANAT, GRIGORIĬ ABRA-MOVICH. Khishehnieheskil kharakter kolonizatsii amerikanskogo Severa. (Akademiā nauk SSSR. Institut geografii. Trudy, 1953, vyp. 57, Voprosy geografii kapitalisticheskikh stran, 1, Raskhishehenie prirodnykh resursov, p. 66–86.) Approx. 60 refs. Text in Russian. Titte tr.: The rapacious character of colonization of the American North.

Summarizes critical reports and comments, in part from American publications, on the depletion of natural resources in Alaska, Canada and Greenland and on the exploitation and demoralization of the native population. The former Russian rule in Alaska is extolled, and Americans are blamed for annihilating the results of it (p. 66–72). Using parts of the American far North for military installations is bitterly assailed.

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AGRANAT, GRIGORIĬ ABRAMOVICH, see also Chernenko, M. B. Lavrentiī Alekseevich Zagoskin . . . 1956. No. 44328.

AGRANAT, GRIGORIĬ ABRAMOVICH, ed., see also Zagoskin, L. A. Puteshestviîâ . . . 1842–1844 . . . 1956. No. 49031.

43498. AGRESTI, PAUL L. Phase V low temperature functional evaluation of a C-118A aircraft in the Climatic Projects Laboratory. Wright-Patterson Air Force Base, Ohio, U. S. Air Force. Wright Air Development Center, Air Research and Development Command, Aug. 15, 1955. 19 [13], 20 p. illus., tables. (Its: WADC-TN-55-278. System no. T-01-P.)

"The C-118A aircraft, USAF No. 52-3241, was subjected to functional tests at ambient temperatures of +70°.  $+20^{\circ}$ ,  $-20^{\circ}$ ,  $-40^{\circ}$ , and  $-65^{\circ}$  F., and to limited testing at  $+130^{\circ}$  F. Engine runs and functional tests of all major systems were accomplished at each temperature. The major low temperature deficiencies encountered during the test include (1) unreliable propeller reversals at temperatures below +20° F. with the standard propeller dome, (2) failure of the main landing gear to lock in the 'UP' position when cockpit control lever was put in the 'UP' position, (3) lack of air pressure retention in emergency air brake storage at or below -20° F. and, (4) completely unsatisfactory nature of the APU at low temperatures." Copy seen: AMAU.

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**43499. AGUREEV, S. P.** Opredelenie izmenenil v tolshchine l'da s ego poverkhnosti. (Meteorologiâ i gidrologiâ, Jan. 1956, no. 1, p. 56, diagr.) Text in Russian. *Title tr.:* Measuring ice thickness variations at the top of the surface.

"An installation consisting of a graduated wooden rod for measuring changes in thickness occurring at the top of the ice is described. The rod is equipped with small folding wings which permit the measuring rod to be inserted through a small hole in the ice. After the rod is inserted, the wings unfold holding the rod against the underside of the ice layer. The rod is painted white to protect against ice melting."—SIPRE.

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43500. AHLBERG, GÖSTA. Befolkningsutvecklingen och urbaniseringen i Sverige 1911-50. Stockholm, K. L. Beckmans boktr., 1953. viii, 420 p. (Monografier utg. av diagrs., tables. Stockholms kommunalförvaltning.) Thesis to Stockholms högskola. Text in Swedish. Title tr.: Population development and urbanization in Sweden, 1911-1950.

Systematic methods that can be used in forecasting future trends are developed from analyses of past population changes. Topical treatment includes relation of individual settlement to causes of increased population, standardization of causes of growth as basis for future predictions, nature of census information and its shortcomings, population development in response to changing occupational structure, and growth and changes as

legitimate clues to the future. In chapter 3, on regional differences in population development, and in subsequent chapters on differentiation between size and density changes in individual localities and between basically different industries, population changes in northern Sweden are systematically treated, comparably with those of the rest of the country.

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43501. AHLENIUS, KARL **JAKOB** MAURITZ, 1866-1906. Beiträge zur Seenkettenregion Kenntnis der Schwedisch-Lappland. Uni-(Upsala. versitet. Mineralogisk-geologiska institut. Bulletin, 1900, pub. 1901. v. 5, pt. 1, no. 9, p. 28-80, 19 tables, text map) Refs. in text. Text in German. Title tr.: Contributions to information on the lake chain region in Swedish Lapland.

Between 63°20' and 68°30' N. lat. in Sweden, a series of lakes radiates from the upland in major northwest-southeast lake-stream valleys. Location, geomorphology, and configuration of lake beds are related to positions of the ice mass during the glacial period, to differences in Cambro-Silurian and earlier rocks and to late-glacial deposits. temperature and temperature stratification are correlated with varying depths of individual lakes and to glacial stream sources. Of the lakes north of the Arctic Circle, only those of the Lille Lule, Perl, and upper Pite river systems are discussed in detail. Copy seen: DLC.

43502. AHLMAN, AXEL. Harald Moltke. (Polarboken, 1956, p. 122–36, 2 illus.) Text in Norwegian.

Harald Moltke, aged 85, is described as one of the famous figures of the Arctic. His Greenland experiences and association with Knud Rasmussea and Mylius-Erichsen are briefly stated, and his principal contributions to art and literature enumerated. His sympathetic understanding and interpretation of Eskimo life and Greenland landscape are stressed. Two paintings, one of Rasmussen, are reproduced.

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43503. AHLMANN, HANS WIL-HELMSSON, 1889 - . Karta över den årliga nederbördens fördelning på Skandinaviska halvön. Stockholm, 1925. 8 p. diagrs., fold. map. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, bd. 3, no. 4.) Text in Swedish. Summary in French. Title tr.: Map of the annual precipitation distribution on the Scandinavian Peninsula.

Data on mean annual precipitation for Norway and Sweden are mapped. Data for Sweden are reproduced from an earlier map of A. Wallén. A general discussion (cf. No. 48845) is given of the distribution of precipitation in the two countries. The annual amount of precipitable water for the area varies from 250 to over 5,000 mm. Two profiles showing precipitation and elevation are included, one running along the meridian between 63°40′-63°50′ N. lat. and the other from 66°25′ N. lat. on the north coast of Norway to 65°40′ N. lat. on the Gulf of Bothnia. Copy seen: DWB.

43504. AHLMANN, HANS WIL-HELMSSON, 1889 . Kebnekajse. (Svenska turistföreningen, Stockholm. Årsskrift, 1952, p. 265–88, 13 illus., text map.) Text in Swedish. Title tr.: Kebnekaise.

Topographic features of the Kebnekaise massif and its approach are outlined. Its glaciers and their variations from their greatest extent about the year 1750 are discussed. The research station is described: the planning, construction, supply, etc., glaciological investigations carried out, research methods experimentally tried, and their value. Kebnekaise depends mainly on air transport, as it is 93 km. from Kiruna and 63 km. from the nearest highway, at Holmajärvi. Though modern facilities are introduced thus by tourists and scientists, the area's natural resources are utilized only by the nomadic Lapp. Copy seen: DGS.

43505. AHLMANN, HANS WIL-HELMSSON, 1889—. Summary of reports from the Nordic countries. (In: International Geographical Union. Eighth General Assembly and Seventeenth International Congress, Washington, D. C., Aug. 8–15, 1952. Proceedings, pub. 1956? p. 207–208.)

Reports (to the Commission on Periglacial Morphology appointed by the 16th IGU Congress, 1949) deal mainly with Recent features. In Svalbard permafrost exists to considerable depth and solifluction occurs wherever there is loose material. Most characteristically-developed polygons occur on the strandflat, inner parts of flat valleys, on mountain

plateaus where weathered material covers bedrock. Periglacial structures in Greenland (not discussed) are similar to those of Svalbard. In Norway, Sweden and Finland isolated permafrost areas occur. Solifluction and other periglacial phenomena, palses, and occurrence of fossil sand dunes in these countries are noted.

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43506. AHLMANN, HANS WIL-HELMSSON, 1889—, and others. Sverige nu; A. V. C:s atlas över Sveriges folk, land och näringar. 2. uppl. Stockholm, A. V. Carlson, 1949. 63 p. col. maps. Text in Swedish. Other authors: S. O. Garland, C. Mannerfelt, and G. Rosewall. Title tr.: Sweden now; AVC's atlas of the population, land and resources of Sweden. 2d ed.

Atlas for school and general use. Text graphs, maps, etc., cover topography, geology, mineral resources, water resources and power, temperature, rainfall, growing season, forests and related activities, agriculture, density and increase of population, industrial sites, transportation networks, and average income. Lapland data are presented as relevant. Sectional maps include (p. 30–31) north and south Lapland. Index of places is appended. Copy seen: DLC.

AHLNESS, PAUL, see Ederstrom, H. E., and others. Correlations . . . skin temperature and blood flow . . . dog. 1956. No. 44722.

AINSWORTH, J., see LaGow, H. E. and J. Ainsworth. Arctic . . . pressure and density measurements . . . rockets. 1956. No. 46212.

43507. AIR INTELLIGENCE TRAIN-ING BULLETIN. Arctic construction. (Air intelligence training bulletin, May 1953. v. 5, no. 5, p. 315-18, 7 illus.)

Notes on selected engineering problems in the Arctic. The proper construction of utilidors, the use of piling or insulation for buildings on permafrost, and construction of an ice bridge are illustrated.

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43508. AIRCRAFT ACCIDENT AND MAINTENANCE REVIEW. Before the next thaw. (Aircraft accident and maintenance review, Sept. 1954. v. 9, no. 9, p. 4-11, illus., diagr.)

Contains suggestions for aircraft maintenance crews concerning the preparation for starting of reciprocating engines, hazards of oil dilution, cowl flap operation, engine starting, warm-up, ground test, taxiing, aircraft structures, securing the aircraft, ice and frost removal, defrosting liquid, fuel and oil systems, hydraulic systems, pneumatic equipment, Pitot static system, heating, anti-icing, and de-icing systems. Copy seen: DLC.

43509. AIRCRAFT ACCIDENT AND MAINTENANCE REVIEW. Cold oil. (Aircraft accident and maintenance review, Sept. 1954. v. 9, no. 9, p. 2-3, illus.)

Describes crack-up of a C-47 due to failure and fire in the no. 1 engine caused by improper pre-heating and dilution of the engine oil. The aircraft had been parked in temperatures as low as  $-40^{\circ}$  F. during 40 hrs. after being towed out of the maintenance hangar two days before and the engine oil diluted for four minutes. The engines had not been preheated for a sufficient length of time and the oil tank was not properly pre-heated with external heat. Copy seen: DLC.

43510. AIRCRAFT ACCIDENT AND MAINTENANCE REVIEW. Frigid facts about snow removal. (Aircraft accident and maintenance review, Sept. 1954. v. 9, no. 9, p. 12–13, illus.)

Describes snow-removal plan for airbases. Method of operation, including the responsibilities of the operations, weather, installations, and flight safety officers, snow removal equipment, abrasives, salts, and runway marking are outlined.

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43511. AIRCRAFT ACCIDENT AND MAINTENANCE REVIEW. Repairs in the raw. (Aircraft accident and maintenance review, Sept. 1954. v. 9, no. 9, p. 19-21, illus.)

Contains suggestions for field maintenance crews who might repair downed aircraft at low temperatures. Proper clothing, shelter, heating, and operating procedures are outlined.

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43512. AIRCRAFT FLASH. GOC in Alaska. (Aircraft flash, Feb. 1956. v. 4, no. 7, p. 4-5, illus.)

Organization and operation of the Ground Observer Corps from Bering Sea islands to the Canadian border are described. Volunteer observers are local inhabitants, native or white, of diverse occupations. All reporting is by radio, directly into the air defense system, this being the only corps in the Air Defense Command which does not employ filter centers. Copy seen: DLC.

43513. AKADEMIĀ NAUK SSSR. Na sobranii v Novosibirske. (*Its:* Vestnik, June 1956. god 26, no. 6, p. 31–39.) Text in Russian. *Title tr.:* Conference in Novosibirsk.

Report of a conference of scientists of the Academy of Sciences and of Siberian scientific institutions held on Apr. 24-25, 1956; activities and needs of the Academy's Yakut Branch and its sections are mentioned, p. 34-35.

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43514. AKADEMIĀ NAUK SSSR. O reorganizatsii Ākutskoī nauchnoissledovateľskoī merzlotnoī stantsii. (Its: Vestnik, May 1956. god 26, no. 5, p. 77). Text in Russian. Title tr.: Reorganization of the Yakutsk Permafrost Research Station.

The station becomes the Northeast Branch of the V. A. Obruchev Institute for the Study of Permafrost (Severo-Vostochnyl Filial Instituta merzlotovedeniâ imeni V. A. Obrucheva); its five sections are listed. *Copy seen*: DLC.

43515. AKADEMIÂ NAUK SSSR. O sostofanii i dal'neIshem razvitii nauchnoI defatel'nosti ÎĀkutskogo filiala. (Its: Vestnik, Oct. 1956. god 26, no. 10, p. 85–86.) Text in Russian. Title tr.: The status and further development of the scientific work of the Yakut Branch.

The Praesidium of the Academy of Sciences' evaluation of this Branch's activities: its achievements in studies of the geology, mineralogy, fauna (fur animals), flora and economy of the Yakut A. S. S. R., also its investigation of cosmic rays are commended; failure to coordinate the work is censured. Instructions are given for future activities.

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43516. AKADEMIÑ NAUK SSR. O zadachakh i programme nablûdenit mezhdunarodnoï sluzhby shiroty. Moskva, Izd-vo Akademii nauk SSSR, 1954. 107 p. tables. Text in Russian and French. Title tr.: Purposes and pro-

gram of observations of the International Latitude Service.

Organization (in 1899), work, and changes in program of the International Latitude Service are briefly outlined in the editor's preface; followed (p. 8–12, 78–82) by a sketch of the life of A. A.

Orlov, 1880-1954, the outstanding Soviet astronomer, and his work on variations of latitude and on secular movement of the poles, by B. A. Orlov. Then follow four papers, as listed below with titles translated:

Secular movement of the poles (p. 13-18, 83-88) by A. IA. Orlov: a summary and analysis of the results of 258,692 observations of latitude, carried out during the 50-year period by Mizusawa, Carloforte and Ukiah stations, with conclusion that the North Pole in its secular movement proceeds along 69° W. with speed of 0".004 annually (p. 16 and 86).

Observations at Poltava to test the new program of the International Latitude Service (p. 19-55, 89-95) by E. P.

Revision of program of the zenith telescope in Pulkovo (p. 56-64, 96-102) by Sakharov, V. I., and I. F. Korbut. Suggestions by astronomers of the U. S. S. R. referring to the Commission no. 19: variations of latitude, (p. 65-72, 103-106) by A. IA. Orlov, and others. Copy seen: DLC.

AKADEMIIA NAUK SSSR. Ob itogakh raboty sobranifa aktiva uchenykh v Novosibirske. (Its: Vestnik, Aug. 1956. god 26, no. 8, p. 81-82.) Text in Russian. Title tr.: Results of the conference of scientists at Novosibirsk.

Notes proceedings of the conference held on Apr. 24-25, 1956; organizing of the Institute of Geology of the Yakut Branch (filial) of the Academy of Sciences. Copy seen: DLC.

43518. AKADEMIIA NAUK SSSR. Pamíati V. A. Obrucheva. (Its: Vestnik, Aug. 1956. god 26, no. 8, p. 58-59, Text in Russian. Title tr.: port.) In memory of V. A. Obruchev.

Announcement of the death of Vladimir Afanas'evich Obruchev, 1863-1956, issued by the Council of Ministers, Academy of Sciences, several ministries, Union of Soviet Writers, and the Geographical Society. His outstanding studies of the geology of Siberia and his leading role in the Soviet exploration of permafrost are noted. Copy seen: DLC.

AKADEMIÑ NAUK SSSR. 100 let so dnî rozhdeni î ÎU. M. Shokal'skogo. (Its: Vestnik, Dec. 1956. god 26, no. 12, p. 113-15.) Text in Russian. Title tr.: The centenary of the birth of IU. M. Shokal'skii

Reports memorial celebrations for the Soviet geographer and explorer, IUliI Mikhallovich Shokal'skil, 1856-1940. held in Moscow and Leningrad by the Geographical Society and Moscow Society of Naturalists. Address by B. P. Orlov on the life and achievements of Shokal'skil is summarized. Copy seen: DLC.

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AKADEMIIA NAUK SSSR, see also Fersman, A. E. Za poliarnym krugom; raboty Akademii nauk na Kol'skom poluostrove . . . 1920-1932. 1932. No. 44882.

43520. AKADEMITA NAUK BOTANICHESKIĬ INSTITUT. Rastitel'nyl pokrov SSSR. Pofasnitel'nyl tekst k "Geobotanicheskol karte SSSR," m. 1:4 000 000. Pod red. E. M. Lavrenko i V. B. Sochavy. Moskva, Izd-vo Akademii nauk SSSR, 1956. 2 v.: 971 p. illus., tables, maps. Approx. 500 refs. in Russian. Title tr.: The plant cover of the U.S.S.R. Explanatory text to the "Geobotanical map of the U. S. S. R." scale 1:4,000,000. Edited by E. M. Lavrenko and V. B. Sochava.

An extensive study of the plant cover and plant zones of the Soviet Union. The material is arranged in 20 chapters, in a general north-south order. following chapters deal partly, or in full, with arctic areas or conditions: Introduction, by V. B. Sochava (p. 9-60) with an historical outline of Russian phytogeographical investigation (including map making) as from the mid-18th century. Arctic and subarctic zones are included and the work in them since the Revolution detailed, not excepting the present monograph and map.

Arctic deserts and tundras, by V. B. Sochava and B. N. Gorodkov (p. 61-138) contains a general account, followed by descriptions of the flora of rocks, arctic deserts, mountain tundra, arctic tundra and several other types of tundra. The larger zones in this group are further subdivided geographically in a west-toeast direction.

Dark coniferous forests, by V. B. Sochava (p. 139-216) deals with forms common in the zone south of the previous one and includes the great forest resources of the Soviet Arctic. Like the previous chapter it contains a general part followed by descriptions of a series of phytogeographic areas. Pine forests, by A. M. Semenova-Tıan-Shanskaıa (p. 217-48) covers forests which extend over arctic Europe but otherwise reach only the margin of the arctic zone; arrangement of this and the following sections as before. Larch forests, by V. B. Sochava (p. 249-318) includes species making up the forests of the Asiatic Birch and aspen forests, by T. I. Isachenko and A. N. Lukicheva (p. 319-45), are relatively briefly described due to their paucity. In the Arctic they cover significant areas only on the Kola Peninsula and in Kamchatka. A small chapter by M. M. Gollerbakh and V. B. Sochava (p. 835-39) deals with the vegetation of glaciers in arctic and other areas.

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Geobotanicheskaîa karta SSSR, sostavlena B. N. Gorodkovym [i dr.] pod rukovodstvom i red. E. M. Lavrenko i V. B. Sochavy. Prilozhenie k knige "Rastitel'nyI pokrov SSSR." [Leningrad, 1955.] col. map 162 x 239 cm. on 8 sheets 90 x 67 cm. Title tr.: Geobotanical map of the U. S. S. R., compiled by B. N. Gorodkov [and others], directed and edited by E. M. Lavrenko and V. B. Sochava. Supplement to the book, Rastitel'nyI pokrov SSSR.

The map in several, and excellent, colors shows areas and vegetation in detail, e. g., five types of tundra, and three kinds of taiga are represented on it. Several small inset maps offer general views on forest distribution, zones, etc.

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AKADEMIÑ NAUK SSR. BOTANI-CHESKII INSTITUT, see also Rastitel'nost' Kražnego Severa SSSR. 1956. No. 47526.

43521. AKADEMIÑ NAUK SSSR. ÄKUTSKII FILIAL, Yakutsk. Institut fizyka, literatury i istorii. Vedushehafa rol' russkogo naroda v razvitii narodov lĀkutii; sbornik statel. [Redaktory: Z. V. Gogolev, A. I. Zakharov, L. N. Kharitonov.] lĀkutsk, lĀkutskoe knizhnoe izd-vo, 1955. 274 p. Refs. Text in Russian. Title tr.: The leading role of the Russian people in the development of the peoples of Yakutia; a collection of articles. Editors: Z. V. Gogolev, A. I. Zakharov, L. N. Kharitonov.

Collection of 17 articles written in accordance with the edict on "The bourgeois-nationalistic distortions in the approach to the history of Yakut literature" issued by the bureau of the Communist Party Committee of Yakut A. S. S. R. on Feb. 6, 1952. The articles signalize the favorable aspects of preand post-revolutionary Russian influence

on the development of the native population. Each article is described in this Bibliography under the author's name viz:

BORISOV, S. Z. The triumph of the nationalist policy of the Communist party. p. 7-21.

ZAKHAROV, A. I. The Russian people, an outstanding nation. p. 22-48.

BAKHRUSHIN, S. V. The positive results of Russian colonization in connection with the integration of Yakutia into the Russian empire. p. 49–69.

IZBEKOVA, A. A. The Russian peasants, introducers of agriculture into Yakutia. p. 70–82.

TOKAREV, S. A. Cultural ties between the Yakuts and Russians before 1917. p. 83-92.

PETROV, P. U. The revolutionary role of bolshevik exiles in Yakutia. p. 93-106.

EMEL'ÎANOV, N. S. The Russian proletariat's aid to the toilers of Yakutia in the fight for establishment and consolidation of Soviet power. p. 107-120.

CHUDINOV, G. M. The role of the Russian people in the industrial development of Vakutia p. 121-38

ment of Yakutia. p. 121-38.
GOGOLEY, Z. V. The aid of the
Russian people in the socialist reform of
agriculture in Yakutia. p. 139-59.
GURVICH, I. S. The changes in

GURVICH, I. S. The changes in the culture and customs of the population of the far North of Yakutia under the influence of Russian culture. p. 160-71.

EVSEEV, S. F. The development of public education in Yakutia and the aid rendered by the Russian people. p. 172–81.

SEMENOV, V. S. Russian physicians in Yakutia. p. 182-98.

CHEMEZOV, V. N. The contribution of Russian scientists to the study of Yakutia. p. 199-215.

KHARITONOV, L. N. The influence of Russian upon the Yakut language. p. 216-30.

PASTŪTIN, K. F. Russian writers on Yakutia. p. 231-43.

KANAEV, N. P., and G. M. VASI-L'EV. The role of Russian literature in the development of Yakut literature. p. 244-63.

EFREMOV, G. A. The artistic development of the Yakut people under the favorable influence of Russian culture. p. 264-73. *Copy seen:* DLC.

43521A. AKADEMIÑ NAUK SSSR. INSTITUT ÉTNOGRAFII. Evgeniñ Éduardovna Blomkvist; 8/21 noûabrû 1890–27 iûlî 1956. (Sovetskafa étnografifa, 1956, no. 4, p. 170–73.) Text in Russian. *Title tr.*: Evgenifa É. Blomkvist; Nov. 8/21, 1890–July 27, 1956.

Obituary of a noted Russian ethnographer whose scientific work, from 1935 onward, was concerned mostly with North American Indians. She participated in the research and writing of a recent book on Zagoskin's 1842-44 travels in Russian America (No. 49031). Her published (29) and unpublished (14) works are listed.

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43522. AKADEMIIA NAUK SSSR. INSTITUT ÉTNOGRAFII. Narody Sibiri. Pod red. M. G. Levina, L. P. Potapova. Moskva, Izd-vo Akademii nauk SSSR, 1956. 1,083 p. illus., col. plates, fold. maps. (Narody mira; étnograficheskie ocherki.) Approx. 800 refs. Text in Russian. Title tr.: The peoples of Siberia. Edited by

M. G. Levin, L. P. Potapov. Basic work: 34 papers, most prepared by members of the Institute of Ethnography. Three comprehensive, background papers are followed by eight on peoples of southern Siberia, and 23 on those of the North and Far East, as listed below with titles translated. Most, similar in scope and presentation, deal with a specific people, its economy, material culture, customs, social conditions and religion, its area, movements, and population (data of 1926 census); they deal, first, and at length, with the pre-Revolutionary period; then in a second, shorter section, with the Soviet phase, in which collectivization, technical advances, education, etc., are stressed. The papers are based on the last 30-40 years' research and the principal museum collections in the U. S. S. R. Introduction (p. 9-20) gives general information on the population of Siberia, native and Russian: languages, hunting and fishing economy of the North, nomadism, tribal organization, native cultures and Russian (historical) influence on cultural development, achievements under the Soviet rule, etc.; 17th century distribution of native ethnic groups is mapped (see also No. 43835). Appendices (p. 991-1082) include a bibliography (with some non-Russian sources) usefully arranged to amplify successive papers; a glossary of local terms; and an index, strong in geographic features. The work is extensively illustrated with photographs, some in color, and drawings. A fold. col. map (1:8,000,000) shows distribution and approximate density of 37 ethnic groups, 25 of them northern peoples. It is based on one prepared in 1951 (cf. No. 30424). The comprehensive papers, those on the Yakuts, and all on peoples of the North and Far East are abstracted in this Bibliography under their authors' names.

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OKLADNIKOV, A. P. The ancient population of Siberia and its culture. p. 21–107.

LEVIN, M. G. Siberian anthropological types. p. 108–114.

POTAPOV, L. P. Historical-ethnographic outline of the Russian population of Siberia in the pre-Revolutionary period. p. 115-214.

Peoples of southern Siberia.

Viatkina, K. V. Buryats. p. 217-66 (Inhabit the Lake Baykal region).

TOKAREV, S. A., and I. S. GUR-VICH. Yakuts. p. 267-328.

Potapov, L. P. Altayans. p. 329–75. Potapov, L. P. Khakass. p. 376–419. (Also known as the Minusin, Abakan or Yenisey Tatars, the Khakass live in the southern part of Krasnoyarskiy Kray along the upper Yenisey and Abakan Rivers.)

Potapov, L. P. Tuvins. p. 420–72. (A mixed people consisting of Samoyed-Ket- and Turkic-speaking ethnic groups, living along the upper Yenisey River.)

living along the upper Yenisey River.) Khramova, V. V. West-Siberian Tatars. p. 473-91.

Potapov, L. P. Shortsy. p. 492-529. (Tatars.)

Sergeev, M. A. Tofalars. p. 530-42. (Karagass, a small group, ethnically and culturally related to the Tuvins.)

Peoples of northern Siberia and the Far

East.

SERGEEV, M. A. Socialist construction among the peoples of northern Siberia and the Far East. p. 543-69.

PROKOF'EVA, E. D. Ostyaks and

Voguls. p. 570-607. PROKOF'EVA, E. D. Nentsy. p.

608-647.
POPOV, A. A. Nganasans. p. 648-60.
DOLGIKH, B. O. Entsy. p. 661-64.
PROKOF'EVA, E. D. Selkups. p. 665-86.

POPOV, A. A. Kets. p. 687-700. VASILEVICH, G. M. Evenki. p. 701-741.

POPOV, A. A. Dolgans. p. 742-59. LEVIN, M. G. Lamuts. p. 760-75.

IVANOV, S. V., and others. Negidals. p. 776-82.

IVANOV, S. V., and others. Nanaitsy. p. 783-816.

IVANOV, S. V., and others. Ulchi.

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p. 817-30. IVANOV, S. V., and others. Udegeitsy.

p. 831-43.

IVANOV, S. V., and others. Orochis. p. 844-54.

IVANOV, S. V., and others. Oroki.

p. 855-60. IVANOV, S. V., and others. Gilyaks. p. 861-84.

STEPANOVA, M. G., and I. S. GURVICH. Yukaghirs. p. 885-95. ANTROPOVA, V. V., and V. G. KUZNETSOVA. Chukchis. p. 896–993.

MENOVSHCHIKOV, G. A. Eskimos.

p. 934-49.

ANTROPOVA, V. V. Koryaks. p. 950 - 77.

ANTROPOVA, V. V. Kamchadals. p. 978-85.

ANTROPOVA, V. V. Aleuts. 986 - 90.Copy seen: DLC.

AKADEMIIA NAUK SSSR. 43523. INSTITUT GEOGRAFII. Sneg i talye vody; ikh izuchenie i ispol'zovanie. Moskva, Izd-vo Akademii nauk SSSR, 1956. 272 p. illus., tables, diagrs., graphs, maps. Text in Russian. *Title* tr.: Snow and snow water; their study and utilization. G. D. Rikhter, editorin-chief.

A collection of articles based on papers presented at the Interdepartmental Conference on problems of snow study, called by the Academy of Sciences' Institute of Geography in Dec. 1954. Other papers similarly presented, and devoted to the problems of combatting snow drift and avalanches on roads and on utilization of snow in agriculture were published simultaneously in separate volumes (not seen). These 18 papers deal with physical and mechanical characteristics of the snow cover, snow melting and run-off, the geographic aspects. Each includes list of pertinent references, and a comprehensive survey of the literature of 1950–1954 closes the volume. Tikhomirov's paper is described in this bibliography under his name.

Rikhter, G. D. Izuchenie snega i snezhnogo pokrova (Problems of the study of snow and snow cover), p. 5-10.

Shumskil, P. A. Diagenez i firnizatsifa snezhnogo pokrova (Diagenesis of a snow cover and firn formation), p. 13-21.

Okudzhava, A. M. Teploprovodnost' vlazhnogo snega (Heat conductivity of wet snow), p. 22-29.

Kuz'min, P. P. Sposob priblizhennogo opredelenifa koeffitsienta otrazhenia snezhnogo pokrova (An approximate method of determining snow cover albedo), p. 30-43.

Sabo, E. D. Isparenie so snezhnogo pokrova v raione Ergenel (Evaporation from the snow surface in the Ergeni region), p. 44-51.

Akkuratov, V. N. Metodika opredelenifa koeffitsienta lineInogo rasshirenia snega (A method for determining the linear coefficient of expansion of snow), p. 52-53.

Salov, M. S. Izuchenie snezhnogo pokrova na ravninnol territorii dhâ analiza formirovanifa i prevychislenifa vesennego stoka (Snow cover investigations in plain areas for calculating meltwater run-off), p. 57-65.

Kuz'min, P. P. Metodika i rezul'taty issledovanifa snegotafanifa (Methods and results of snow-melting studies), p. 66 - 91.

Puzanov, V. P. O kolichestvennoI otsenke udel'noi znachimosti faktorov ablıatsii snezhnogo pokrova (Quantitative characteristics of factors determining\_cover ablation), p. 92-100.

TSykin, E. N. Vodopronitsaemost' merzlykh pochv i ee dinamika vo vremî a snegotafanifa (The water permeability of frozen ground and its dynamics during snow melting), p. 101-111.

Rakhmanov, V. V. Zavisimost' snegotafanifa v lesu ot kharaktera pogody (The effect of weather on snow melting in forests), p. 112-24.

Dmitrieva, N. G. Snegozapasy i talyi stok v basselnakh gornykh rek (Snow accumulation and meltwater runoff in basins of mountain rivers), p. 125-

Kovzel', A. G. O raspredelenii snegozapasov v rechnykh basselnakh (The distribution of snow cover in river basins), p. 135-56.

Dmitrieva, N. G. Nekotorye osobennosti obrazovanifa i stekanifa talol vody v rajone Nizhnedevitskoj stokovoj stantsii (Certain features of meltwater run-off in the area of Nizhnedevitsk

hydrological station), p. 157-73. Fel'dman, ÎA. I. Rol' snezhnogo pokrova v obrazovanii mestnoi pogody (A role of snow cover in the formation of local weather), p. 177–83. Rutkovskiĭ, V. I. Vlianie lesov na

nakoplenie i taianie snega (Forest effects on the accumulation and melting of snow),

p. 184-205.

TIKHOMIROV, V. A. Nekotorye osobennosti snezhnogo pokrova tundry i ego vlifanie na sushchestvovanie rastitel'nosti (Certain features of snow cover in the tundra and their effects on plant life), p. 206–239.

Sabo, E. D. Osobennosti formirovania snezhnogo pokrova na vostochnykh sklonakh Ergenei (Features of snow cover formation on the eastern slopes of the

Ergeni elevation), p. 240-50.
Kotlâkov, V. M. Literatura po snegu i snezhnomu pokrovu, 1950-1954. (Bibliography on snow and snow cover, 1950-1954), p. 251-71. Lists, with brief annotation, 259 books and papers published in the U. S. S. R. They deal with study of snow and its physical properties (78); snow melting and meltwater runoff (40); utilization of snow cover for agricultural purposes (108); control of

snowdrift and avalanches (33).

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43524. AKADEMIÑ NAUK SSSR. INSTITUT GEOGRAFII. URSS. Bibliographie concernant les formations périglaciaires et le pergélisol en URSS. (Biuletyn peryglacjalny, 1956. nr. 4, p. 37-46.) Text in French. Title tr.: U. S. S. R. Bibliography concerning periglacial formations and the pergelisol in the U. S. S. R. One of the reports of the Commission of Periglacial Morphology, International Geographical Union.

Contains brief explanatory text and list of 152 Russian publications dealing with soil formation, permafrost, frost action, solifluction, patterned ground, hydrolaccoliths, the tundra, etc. In each case, the Russian titles are translated into French, English, or German.

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43525. AKADEMIÑ NAUK SSSR. INSTITUT GEOGRAFII. Voprosy izucheniâ snega i ispol'zovaniâ ego v narodnom khozîâistve. Moskva, Izd-vo. Akademii nauk SSSR, 1955. 176 p. illus., tables, diagrs. Text in Russian. *Title tr.*: The study of snow and its utilization in the national economy.

Contains nine papers dealing with the physical characteristics of the snow cover, its protective effects on fertile soil; the importance of its moisture supply in thawing, etc. Only a few of the problems affecting the national economy are dealt with however, and extension of the study

is recommended. While few of the data cited are derived from localities within the Arctic, all the papers have relevance to problems of that area, viz:

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Rikhter, G. D. Ispol'zovanie snega v narodnom khozîaîstve i zadachi ego izucheniâ (The utilization of snow in the national economy and problems of study), p. 5–23. A suggested program of investigations, with principal problems: study of the physical, mechanical and aerodynamic properties of snow and the snow cover, and conditions of formation and metamorphism; also effects of snow cover on climate, hydrology, soil, flora, fauna and geomorphic proces-

Sulakvelidze, G. K. Nekotorye fizicheskie svoľstva snezhnogo pokrova (Some physical properties of a snow cover), p. 24-54. "Results are given of a comprehensive study on the physical properties of a snow cover, initiated in 1946 by the Institute of Physics and Geophysics of the Georgian Academy of Sciences and carried out both in the laboratory and at several points in the Caucasus Mts., including tabulated data and an analysis of meteorological effects on their values. Data obtained by other investigators are revised. The study covers compression, extension, friction, cohesion, viscosity, reflection, brightness and light absorption, heat transmission, electric properties, etc.; also problems of avalanche formation and movement. Formulas describing avalanche processes mathematically from the physical properties of the snow cover and its metamorphism are given."

Shimanovskii, S. V. Nabludenia nad temperaturnym rezhimom snezhnogo pokrova v IAkutske, Igarke i Podmoskov'e (Observations of temperature variations on the snow cover in Yakutsk, Igarka and suburban Moscow), p. 55-72. "Results of temperature measurements on and within the snow cover during the winter of 1942-43 in Yakutsk, in 1946-47 at Igarka and from Jan.-April 1950 near Moscow are reported and data are tabulated and graphed. Resistance thermometers were installed at various depths and standard maximum and minimum Hg thermometers placed on the snow surface for measurements. Many series of hourly measurements were made in addition to daily measurements at noon. The maximum snow depth was 35 cm. in Yakutsk, 75 cm. at Igarka and 88 cm. near Moscow. Important data characterizing the thermal properties of the snow cover and their variations with air temperatures and snow density were obtained. Studies on radiation absorption within the snow cover carried out at Yakutsk indicate that penetration of solar radiation at an albedo of 85-90 percent and 0.16 snow density was 32 percent through a 3-cm. snow layer and 1.5 percent through a 35-cm. layer."

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Chekotillo, A. M. Temperaturnasa inertsifa pochvy v zimnee vremfa (Soil temperature stability in winter), p. 73-Effects of the depth and density of a snow cover on variations in soil temperatures are analyzed on the basis of observations in European Russia . . . Data on soil temperatures of various depths are tabulated for several winters and points, and compared with data on the snow-cover depth and density. The effects are expressed quantitatively by the index of soil-temperature stability at a fixed depth, which is defined as the duration of the period in which soiltemperature readings differ by not more than 0.2° C. Importance of stability in soil temperature for underground construction, especially pipe lines is noted.

Mel', M. I. K postanovke nabliudenii nad snezhnym pokrovom (Problems of snow cover observations), p. 98-111. The development of snow-cover observations in Russia, which began on a systematic basis in 1890, is reviewed; the observational methodology suggested in several manuals is outlined. Peculiarities of snow-cover distribution in open fields and grass-covered or forest-protected areas are analyzed. The recently adopted method of making snow surveys along a triangle does not sufficiently characterize the snow-cover distribution in open fields and in localities with broken relief; therefore this method is to be revised.

Shul'gin, A. M. O kharaktere raspredelenifa snezhnogo pokrova na poliâkh (Snow cover distribution on fields), p. 112-36. Deals with the importance of a snow cover as a source of soil moisture in the forest-steppe and steppe zones of the U. S. S. R., where the water equivalent of the snow cover reaches 25-30 percent of the annual precipitation; data are given on snow-cover distribution and soil-temperature variations in fields where the effects of snow retention were studied with grass, crops and other kinds of vegetation.

Shul'gin, A. M. Dinamika snezhnogo pokrova i vozmozhnosť sozdania ego ustoľchivosti v kontinental'nykh raľonakh (Dynamics of snow cover and the possibility of its stabilization in continental regions), p. 137-45. A secular trend and annual variation in snow-cover depth are discussed on the basis of observations in Barnaul from 1838, and the values are considered a descriptive index of the inland climate of Western Siberia. Decadal data on snow depth are tabulated and monthly depths during the winters from 1927-1947 are graphed. Snow usually covers inland areas of Western Siberia Nov.-April, with the maximum depth in Feb.-March. The dry snow falling at the beginning of winter drifts easily, so that fields retain only a thin snow cover and the soil freezes deep. Snowretention measures practiced in the area since 1941 have increased the snow depth on fields by a factor of 3-4 and reduced soil freezing and the destruction of winter The control of snowdrifts makes crops. possible a stabilization of the snow-cover depths.

Gongadze, D. N. Nekotorye voprosy dinamiki snezhnykh lavin (Problems in the dynamics of snow avalanches), p. 146-51. Conditions of avalanche formation and movement are mathematically analyzed on the basis of special studies in Georgia on the slopes of the Caucasus Mts. during 1949-1954, and the formulas derived are given.

Galakhov, N. N. Vlifanie lesoobrazufüshchikh porod na tafanie snezhnogo pokrova (Forest effects on snow melting), p. 152-72. Snow conditions in forested areas and forest effects on snow-cover distribution and melting are described on the basis of observations in European Russia since 1899 as well as special studies in Kalinin Province (1921-1930), Kola Peninsula (1935-40), Karelia (1942-1944), and near Moscow (1946-1948). Data for Moscow are tabulated and graphed. The distribution and melting of snow in forests depend largely on the The minimum depth of tree species. snow cover occurs under coniferous trees, which remain snow-covered through winter in the North and after falls of wet snow in the temperate areas. radiation from the tree trunk and intense absorption of solar radiation by the dark coniferous foliage result in snow melting on and around the trees even in winter. Spring melting starts in forests from the snow-free areas around the trees.-From SIPRE. Copy seen: DLC.

AKADEMIIA NAUK SSSR. 43526. INSTITUT ISTORII MATERIAL'NOI KUL'TURY. Pamîati Marii Egven'evny Foss. (Its: Kratkie soobshchenia, 1956. vyp. 64, p. 157-61, port.) Text in Title tr.: In memory of Russian. Marifa Evgenievna Foss.

Obituary of a noted scholar and authority on the neolithic period in the U. S. S. R., who died in Moscow on Sept. 9, 1955. Her (57) publications 1928-1954 are listed. Copy seen: DLC.

AKADEMIIA NAUK SSSR. Institut merzlotovedeniâ. Materialy k osnovam uchenifa o merzlykh zonakh zemnoľ kory, vyp. 1, see Shvetsov, P. F. Vvodnye glavy k osnovam geokriologii. 1955. No. 47993.

#### AKADEMIIA NAUK SSSR. 43527. INSTITUT MERZLOTOVEDENIA.

Materialy k osnovam uchenifa o merzlykh zonakh zemnoľ kory, vyp. 2. Moskva, 1955. 74 p. tables, graphs, Text in Russian. Title tr.: Contributions to basic studies on the frozen zones of the earth's crust, part 2.

Contains nine papers on theoretical and practical problems of the permafrost region, including origin and movements of ground water and ice, limits of permafrost, its characteristics, terminology, etc. The papers are abstracted in this Bibliography under their authors' names, viz. (titles translated):

POPOV, A. I. Origin and evolution of fossil ice, p. 5-24.

KACHURIN, S. P. Thermokarst is not always a sign of permafrost degradation, p. 25-33.

BAKULIN, F. G. Gol'dshtein's hypothesis on water migration and ice formation in freezing ground, p. 34-37.

BARANOV, I. IA. Southern limit of

permafrost, p. 38-44.

KHOMICHEVSKAfA, L. S. concept of "active layer" in permanently frozen rock areas, p. 45-51.

BAKULIN, F. G. Defining the concept of "moisture and ice content" of frozen ground, p. 52-56.

SIDENKO, P. D. On certain concepts of permafrostology, p. 57-58.

MEISTER, L. A. Shortcomings in the classification of ground water, p. 59-64.

VOľTKOVSKIĬ, K. F. Using of corrected coefficient of specific heat for

calculating depths of ground freezing and thawing, p. 65-74.

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#### AKADEMIIA NAUK SSSR. 43528. INSTITUT MERZLOTOVEDENIÍA.

Materialy k osnovam uchenia o merzlykh zonakh zemnol kory, vyp 3. Moskva, 1956. 229 p. illus., tables, diagr. Text in Russian. Title tr.: Contributions to basic studies on the frozen zones of the earth's crust, part 3.

Contains 12 papers on a variety of problems in geocryology, which appear in this Bibliography under their authors' names viz (titles translated):

MEISTER, L. A. Interrelation between theory and practice in the development of geocryology, p. 5-17.

SHVETSOV, P. F. Principles for the regional division of the perennial cryolithic zone, p. 18-39.

PARKHOMENKO, S. G. Freezing of soils and porous rocks, p. 40-84.

TYRTIKOV, A. P. Influence of vegetation on permafrost in the subsoil, p. 85-108.

DANILOVA, N. S. Ground veins and their origin, p. 109-122.

ANISIMOVA, N. P. Chemical composition of deep underground water in

central Yakutia, p. 123-25. VTIURIN, B. I. Several geomorphic

terms in geocryology, p. 126-34. USHKALOV, V. P. Determination of foundation pressure on thawing ground, p. 135-62.

PCHELINTSEV, A. M. Tangential stresses along lateral surfaces of foundations caused by ground thawing, p. 163-

MARTYNOV, G. A. Derivation of a basic equation for heat transmission in freezing and thawing ground, p. 167-78.

MARTYNOV, G. A. The calorimetric method for determining the amount of unfrozen water within frozen ground, p. 179-85.

CHEKOTILLO, A. M. Permafrostology abroad before 1955, p. 186-229. Copy seen: DLC.

43529. AKADEMIIA NAUK SSSR. KOMITET PO PROVEDENIÍÙ MEZH-DUNARODNOGO GEOFIZICHE-SKOGO GODA, 1957-1958. Mezhdunarodnyl geofizicheskil god. stantsil i observatoril SSSR, na kotorykh budut proizvodit'sî nablîdeni v techemezhdunarodnogo geofizicheskogo goda, 1957-1958. Moskva [Izd-vo Akademii nauk SSSR] 1955. 16 p. tables.

Text in Russian. *Title tr.:* International Geophysical Year. List of U. S. S. R. stations and observatories which will carry out observations during the International Geophysical Year, 1957–1958.

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deles. Lists stations, by fields of investigation, with names, index no., character of observations, latitude and longitude, and status (in operation or planned). Arctic and subarctic stations are included among those in the field of actinometry (13 stations), aerology (26), terrestrial magnetism (11), earth currents (1), auroras and night sky luminescence (23), ionosphere (6), solar radiation (1), cosmic rays (5), glaciology (4), coastal oceanography (5).

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AKADEMIIA NAUK SSSR. 43530. LABORATORIÍA GEOLOGII UGLÍA. Materialy vtorogo ugol'nogo geologicheskogo soveshchaniîa. Moskva-Lenin-Izd-vo Akademii nauk SSSR, grad, 1956. 2 v.: 260, 618 p. illus., diagrs., tables, maps incl. fold. (Akademifa nauk SSSR. Laboratorifa geologii uglifa. Trudy, 1956, vyp. 5 and 6.) Text in Title tr.: Materials of the Second Coal-geology Conference.

The Conference, attended by over 600 representatives of government agencies and scientific institutions dealing with geological exploration, prospecting and mining, took place in Leningrad, at the Laboratory of Coal Geology of the Academy of Sciences, Mar. 21–26, 1955. Of 101 papers and 13 reports delivered to the Conference, 84 papers are presented in these volumes, some with summary of subsequent discussion. Resolutions relating to the needs of exploration in various coal-bearing areas, including Northern Ural, Tungusskiy and Lenskiy coal basins were passed (vyp. 6, p. 593–604).

Lists of participants (ibid., p. 605-615) includes 27 representatives of the Scientific Research Institute of Geology of the Arctic. Address by E. T. Shatalov and papers by S. N. Tŵremnov, E. A. Perepechina, M. T. Ritenberg, M. A. Speranskii, V. V. Pogorevich, A. V. Makedonov, K. G. Volnovskii-Kriger, M. K. Korovin and A. S. Strugov, relating at least in part to the coal-bearing regions of the North, appear in this bibliography under their authors' names.

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43531. AKADEMIĀ NAUK SSR. ZOOLOGICHESKII INSTITUT. Atlas bespozvonochnykh dal'nevostochnykh morel SSSR. Moskva-Leningrad, Izd-vo Akademii nauk SSSR, 1955. 243 p. illus., 68 plates, maps. About 250 refs. Text in Russian. *Title tr.:* Atlas of invertebrates from the Far Eastern seas of the U. S. S. R.

Contains a general part (p. 5-21) dealing with the history of faunistic research of these seas; their physicogeographical characteristics; nature and type composition of fauna; fauna of the various marine zones (littoral, continental shelf, etc.). This is followed by an account and description of types, classes, etc., down to and including species (p. 22-229) with notes on biology and ecology, distribution, economic value, etc. The "Atlas" proper consists of 66 plates at the end of the book with illustrations of some 600 species described in the text. An alphabetic index (p. 230-40) of both Russian and Latin names is included. Some 30 specialists (listed) participated in the study under the general editorship of P. V. Ushakov. Copy seen: DLC.

AKADEMIÑ NAUK SSR. ZOO-LOGICHESKII INSTITUT. Opredeliteli po faune SSSR . . . (Keys to the fauna of the U. S. S. R. . . .). In continuation of No. 38454, see

No. 60 (1956). SHTAKEL'BERG, A. A. Domestic dipters. No. 47973. No. 61 (1956). BREGETOVA, N. G. Gamasid mites. No. 44126.

No. 63 (1956). VYSOTSKAIA, S. O. Key to fleas. No. 48827.

43532. AKADEMIIA PEDAGOGI-CHESKIKH NAUK RSFSR, Moskva. NATSIONAL'NYKH INSTITUT SHKOL. Rodnoĭ i russkiĭ ſazyki v shkolakh narodov finno-ugorskol gruppy; Posobie dha uchitelel, sbornik statel. pod red. F. F. Sovetkina. Moskva, Gos. uchebno-pedagog. izd-vo, 1956. Text in Russian. 208 p. Refs. tr.: The mother tongue and Russian in schools of the Finno-Ugric language group; collection of articles. A handbook for teachers, edited by F. F. Sovetkin.

Based on studies of the Institute of Schools for Nationalities and assembled to aid teachers of Russian, these papers (eight) draw upon the grammatical structure of the student's native language to illustrate unfamiliar Russian forms. The following, on northern peoples, are abstracted under their authors' names, viz. (titles translated):

KHOZIAINOVA, E. E. The phonetic system of the Komi language. p. 118-45. BOITSOVA, A. F. Peculiarities of semantics and word-formation of the Evenki verb as compared with the Rus-

sian verb. p. 146-96. KHVATAĬ-MUKHA, K. F. locative-instrumental case with adverbial meaning in the language of the northern Khanty; the central Ob' and Kazym

dialects, p. 197-207.

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43533. AKHUMOV, E. I. O pererabotke morskol vody v uslovifakh kholodnogo klimata. (Zhurnal prikladnol khimii, Apr. 1956. t. 29, vyp. 4, p. 569-77, tables, graphs.) 6 refs. Text in Russian. Title tr.: Desalination of sea water under cold climate conditions.

The process of extracting salt from sea water (from freezing to  $-10^{\circ}$  C.) is analyzed in detail. Methods of computation of the salinity of the ice layers, water concentrate and their chemical composition are described. Data are tabulated and graphically presented. Variations in the physical properties of sea-water ice, depending on initial salinity, are given. This method of desalination is considered effective for the industrial water supply of regions with long, severe winters.—From SIPRE.

AKIOKA, MASATOKI, see Kakuwa, Z., and others. Report on whale marking . . . North Pacific . . . 1953. 45855.

AKKURATOV, V. N., see Akademifa nauk SSSR. Institut geografii. Sneg i talye vody. 1956. No. 43523.

43534. AKKURATOV, VALENTIN IVANOVICH. Aeronavigation methods in high latitude flying. Translated by E. R. Hope. Ottawa, Sept. 1951. 24 p. 2 ports., 2 text maps. Mimeographed. Defence Research Board. (Canada. Scientific Information Center. T 47 R.) English translation of Arctic Bibliography. No. 143. Copy seen: CaMAI.

43535. AKKURATOV. VALENTIN IVANOVICH. K políusu nedostupnosti. (Znanie-sila, Jan. 1956. god 31, no. 1, p. 26-27, illus.) Text in Russian. Title tr.: To the Pole of Inaccessibility.

Notes his flights with I. I. Cherevichnyl on the SSSR-N-169 and landings on ice in region of the Pole of Inaccessibility in 1941; with mention of the reconnaissance flight over the same area in 1939 on the SSSR-N-275.

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AKKURATOV, VALENTIN 43536. IVANOVICH. Tak derzhat'! (Znaniesila, Dec. 1956. god 31, no. 12, p. 1-4, Text in Russian. Title tr.: illus.) Keep this way!

Popular account of the magnetic compass and of its limitations in high latitudes: its discovery by the Chinese; local, periodic and latitudinal deviations. It is supplemented by the astro compass in the Arctic. Errors in navigation during the flight over the North Pole in 1926 (Amundsen-Ellsworth-Nobile Expedition) are noted as due to compass Copy seen: DLC. deviations.

43537. AKLAVIK JOURNAL. Aklavik, N. W. T., Published at the Roman Catholic Mission by Father Brown, O. M. I. Nov. 1955-in progress. Published monthly (unnumbered).

News sheet (8-10 p.) with local information on people and events, schools, construction, plans for new townsite, health, weather, the fur trade, social events, R. C. M. P., vital statistics, etc.; also news of the Canadian Arctic in general, happenings on the DEW Line, N. W. T. Council decisions.

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43538. ALAMPIEV, P. O setke ėkonomicheskikh raionov SSSR. (Planovoe khozîaIstvo, 1956, no. 6, p. 25-37) Text in Russian. *Title tr.:* The network of economic zones of the U.S.S.R.

Unusual features in the economy in the Asiatic North are noted (p. 35-37): the vast area (8 million sq. km.), scarcity of population, lack of transportation, impossibility of agriculture, a local economy based on hunting and raising reindeer. That area must be considered as a unique economic zone, requiring a special approach in planning its development. Copy seen: DLC.

43539. ALASKA. CONSTITUTION. The Constitution of the State of Alaska. [College, Alaska.], Feb. 5, 1956. 55 p. fold. map.

Contains text of this Constitution, agreed upon by the delegates to the Alaska Constitution Convention, Feb. 5, 1956, at the University of Alaska. The 15 Articles deal with: declaration of rights; legislature; executive; judiciary; suffrage and elections; legislative apportionment; health, education and welfare; natural resources; finance and taxation; local government; initiative, referendum, and recall; general provisions; amendment and revision; apportionment schedule; schedule of transitional measures. Appended is text of ordinances on: ratification of Constitution, Alaska-Tennessee Plan, abolition of fish traps; the second providing for election of senators and representatives to Congress in advance of Alaska's admission as a state of the Union.

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**43540.** ALASKA. DEPT. OF MINES. Report of the Commissioner of Mines for the biennium ended December 31, 1956. Juneau, 1957. 103 p. 6 tables.

Contains information on administration, cooperation with federal agencies; field investigations, assay offices and field stations; new activities and services; mineral production during 1954-1956, average metal prices; future and needs of industry; prospecting and exploration (claims staked by division and year); mining of precious metals (by district), coal, base metals, radioactives, nonmetallics, oil and gas; laws and regulations pertaining to locating and leasing ground; employment and accidents at mines; active mining operations during 1955-1956. Previous reports are listed as No. 33185 of Arctic Bibliog-Copy seen: DGS. raphy.

43541. ALASKA. DEVELOPMENT BOARD. Alaska passenger traffic survey 1955. Juneau, Aug. 1956. 13 p. 9 graphs, 4 tables.

An annual compilation (since 1950) based on information supplied by steamship lines, scheduled airlines, Territorial Dept. of Police, and Canadian Dept. of Citizenship and Immigration (Alaska Highway); also, for the first time, Military Sea Transportation Service (MSTS): data on its civilian traffic. Passenger traffic for 1955 was 254,590, a decline of 0.6 percent from 1954. Continuing a trend started in 1954, departures exceeded arrivals by 5,598 persons. Data on each type of travel, airline, steamship, and highway are graphed, tabulated and briefly discussed. During 1955. airlines carried 62.3 percent of total highways 29.4 percent, and traffic, steamships 8.3 percent.

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43542. ALASKA. DEVELOPMENT BOARD. Estimate of Alaska population, July 1, 1954 to June 30, 1955. Report no. 4. Juneau, 1956. 10 p. 2 graphs, 3 tables.

Fourth such report (cf. No. 38485) offers detailed estimates for military and civilian population by month, July 1954–June 1955; and for civilian only, July-Dec. 1954. Annual data Oct. 1, 1939–July 1, 1955, also monthly Jan. 1950–Jan. 1956 are added. The downward trend, started in fiscal 1954 with a net loss of 355 persons, increased to a net loss of 2,274 in fiscal 1955. The annual winter migration from Alaska was, however, less than ever before.

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43543. ALASKA. DEVELOPMENT BOARD. Financial data regarding the incorporated towns and cities of Alaska, 1955. Juneau, Apr. 1956. 10 p. 2 graphs, 5 tables.

Contains results (with brief discussion) of third financial survey of 30 municipalities (five not reporting): judicial division, incorporation date, class; property assessments and tax rate: bonded indebtedness; sales tax; number and value of building permits issued, 1951-1955. Total assessed valuation of real and personal property is given for each year 1935-1955. That for 1955 \$258,254,470, an increase of \$34,219,354 or 15.3 percent over 1954, due partly to reassessment program in Juneau, the true increase being nearer \$19 million. Property valuation is still rising, but at a declining rate. Anchorage, Fairbanks, Juneau, and Ketchikan account for 77 percent of total property value. Previous report, No. 38486.

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ALASKA. DEVELOPMENT BOARD, see also Joseph S. Ward & Assoc. The Ward index of consumer prices . . . 1956. No. 45831.

**43544. ALASKA. GOVERNOR.** Annual report 1955. Washington, D. C., U. S. Govt. Print. Off., 1956. 97 p.

Governor Heintzleman's review of the fiscal year July 1, 1954–June 30, 1955, with information on work of federal and territorial government departments, civil defence, finances, fisheries, health and welfare, transportation, future plans, etc. Earlier reports are listed under No. 38475.

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43545. ALASKA. GOVERNOR. A handbook on Alaska regionalism for the

use of delegates to the Alaska Constitutional Convention, College, Alaska. Prepared by George W. Rogers, Office of the Governor. Juneau, 1955. 9 1. 8 text maps, 2 tables. Mimeographed.

Approx. 15 refs.

Data assembled to aid delegates in devising systems of apportionment and local government and in determining policy in relation to natural resources management, economics and public administration. Sketch of the geographic regions is followed by analysis of four socio-economic sections: their population characteristics (1950 census statistics), economic structure (statistics for 1949-1953), communications and transportation, their administrative units. Maps show their boundaries, also forest distribution and forest management districts, mineral deposits, judicial divisions and recording districts, fur districts and commercial fisheries areas.

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43546. ALASKA. GOVERNOR. Index: federal government and territorial government. Juneau, Mar. 12, 1956. [3], 10 p. Mimeographed.

Directory of U. S. Government departments and their agencies in Alaska and of the Territorial departments and agencies. Principal officials, address, etc., are included for each dept. or agency.

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43547. ALASKA. LEGISLATIVE COUNCIL. Final report to the Twenty-third Legislature of the Territory of Alaska. Juneau, Alaska, 1956. ii, 95, 40 l. (Its: Publication no. 22–6.) Mimeographed.

Reports problems studied and legislative action recommended in 17 categories: mental health, roads, public lands, tax, banking, election laws, etc. Appended (40 p.) are minutes of Council meetings Apr. 1955–Dec. 1956.

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43548. ALASKA. UNIVERSITY. EX-TENSION SERVICE. Gardening in Alaska. College, 1956? 18 p. illus., tables, map. (*Its*: Bulletin 451.)

Contains instructions on planning and location of gardens; fertilization, soil preparation, planting and care. Directions are given for specific vegetables (25), for control of pests and of damping-off disease.

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ALASKA. UNIVERSITY. GEOPHYS-ICAL INSTITUTE, see Little, C. G. Radio wave propagation . . . 1955. No. 46398.

43549. ALASKA COMMITTEE FOR THE WHITE HOUSE CONFERENCE ON EDUCATION. Report of Alaska White House Conference on Education. 1956. v, 19, ii, 48 p.

A ten-member committee appointed by Governor Heintzleman represented Alaska at the nation-wide conference on education, Washington Nov. 28-Dec. 1, 1955. Six reports from that conference, on aims, organization, building needs, teachers, finance, and public interest, are given (19 p.). Appended (48 p.) are data on these topics assembled in advance by the Alaska Committee with aid of local school boards, parent-teacher groups, etc. They offer a comprehensive survey of Alaskan schools with specific local information. The committee's plan for invoking this participation is outlined in introduction, together with a précis of the Territorial school organization.

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ALASKA RAILROAD, see U. S. Dept. of the Interior. Alaska Railroad. Prospectus of rehabilitation . . . 1946. No. 48594.

43550. ALASKAN SCIENCE CONFERENCE. 3d, Mt. McKinley National Park, Alaska, Sept. 22–27, 1952. Science in Alaska 1952. Proceedings. [College, Alaska.] American Association for the Advancement of Science, Alaska Division,\* 1954. vi, 221 p. text maps, graphs, diagrs., tables.

Contains abridged text or abstract of most of the papers presented (108 in all, as listed below); 72 are described in this volume of Arctic Bibliography under their authors' names (those in capital letters); others, published elsewhere, are listed with their Arctic Bibliography number.

Opening session.

IRVING, L. Influences of Alaskan research on the progress of science. p. 1-5.

SNYDER, L. H. Genetics and the study of human populations. p. 6-11.

Proctor, C. S. Remarks, p. 11–12: a greeting from the American Society of Civil Engineers.

<sup>\*</sup>Address: P. O. box 960, Anchorage, Alaska.

Symposium: Social science in Alaska.

Gruening, E. Alaska: progress and problems. p. 13: abstract of No. 29441. Rasmuson, E. E. The financial threshold of Alaska. p. 13: abstract of No.

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Lantis, M. Where are the social sciences in Alaska? p. 13: abstract of No. 30336.

Engineering, mining, aviation.

· MOATS, H. L. Science, an aid to the Corps of Engineers in Alaska. p. 14-16. GLENNEN, E. J. Design and construction in permafrost regions. 16-18.

ALTER, A. J. Alaska water pollution control investigations. p. 19-20.

MORGAN, J. M. Water power resource investigations in Alaska. p. 21. WHITSETT, J. W. Engineering considerations in polar flight. p. 22-24.

JESS, A. Some aspects of ground-ice control on Alaskan highways. p. 25-26. Beistline, E. H. Shortage of engineers

(abstract). p. 26-27: states ways to attract students to the engineering field. PAGE, W. B. Design of water distri-

bution systems for arctic regions. p.

COPP, S. S. Two water supply systems of northwestern Canada. p. 62 - 63.

THOMPSON, R. F. Water treatment: Ladd Air Force Base. p. 64-67.

LAMPHERE, E. M. Operation of experimental septic tank units under sub-arctic conditions. p. 68-71.

WILSON, C. S. The status of mosquito control in Alaska, civilian aspects.

p. 72.

WILEY, J. F. Status of insect control Alaska, military aspects. p. 73. FOURNELLE, H. J. Studies of changes in sewage held at low tempera-

tures. p. 74-75. Pauls, F. P. Enteric diseases in Alaska. p. 75-76: summary of No.

31204.

RANSOME, A. L. The mineral production of Alaska. p. 76-77.

Medicine, public health.

Fritz, M. H. Mastoiditis: a public health problem in Alaska. p. 27: of some 3,000 afflicted, 90 percent are Eskimos; teams of itinerant doctors and nurses are recommended.

Meehan, J. P. Vascular responses of Eskimo, Indian and white soldiers to

cold stimuli. p. 27: no text or abstract given.

Owens, M. O. Arctic rescue operations. p. 27: abstract given.

Livesley, R. B. Organization of civil defense in Alaska. p. 27: no text or abstract given.

Scott, E. M., and E. S. Weiss. Civilian food supply and distribution. abstract states how Alaskan food habits differ from those in the U.S., importance of imported foods, etc.

Tuberculosis control in Alaska, paydirt or fool's gold: a round table discussion.

p. 193: title only given.

Geology, geography.

Wahrhaftig, C. Glaciation and uplift along the Nenana River, Alaska. p. 28: abstract of paper pub. in No. 31287.

Alaska mapping programs and needs, a symposium. p. 29: titles only of eight papers pub. as No. 27698.

Wilcox, R. E., and others. Geology of the western islands of the Aleutian arc. p. 29: title only given.

FISCHER, W. A. Photogeologic mapping in Alaska. p. 29-31.

BREWER, M. C., and G. R. Mac-CARTHY. Geothermal fluctuations in permafrost at Point Barrow, Alaska p. 169.

(abstract). p. 169. PÉWÉ, T. L. Permafrost investigations in the Fairbanks area, Alaska.

p. 169.

RANSOME, A. L., and W. H. KERNS. The problem of standardizing names and definitions of geographic regions and mining districts in Alaska. p. 170-72.

WHETSTONE, G. W. General chemical character of surface waters of

Alaska. p. 172-75.

CHAPMAN, R. M., and others. Geological and geographical research in Alaska's future development: a round table discussion. p. 176–78.

Geophysics and physical sciences.

Petrie, W. Rotational temperatures of auroral nitrogen bands. p. 32: abstract.

Knecht, R. W. Relationships between aurorae and sporadic E echoes. p. 32: abstract.

SUGIURA, M. Notes on the auroral protons. p. 32-33.

CAIN, J. C. Storm-time variations in the geomagnetic field at high latitudes. p. 34.

Crary, A. P., and R. D. Cotell. Preliminary report of scientific observations on ice island T-3. p. 98: abstract of No. 21306.

LAFOND, E. C. Physical oceanography and submarine geology of the seas to the west and north of Alaska. p. 98-104.

Holtsmark, B. E. Insulating effect of a snow cover on the growth of young sea ice. p. 104-108. See No. 40396.

Cain, J. C., and W. S. Wilson. Total ozone observations at College, Alaska. p. 109: abstract.

HENRY, W. K. The movement of the

Southwest Low. p. 110. Mukherjee, N. R. Effect of some factors on nucleation in phase transition. p. 111-116. See: No. 46888.

ELDRIDGE, A. C. A numerical method of forecasting summer precipitation in the area of Elmendorf Air Force Base. p. 117-19.

Manning, L. A. The contribution of meteors to atmospheric ionization. p. 215: abstract of Meteor radio echoes, pub. in somewhat different form in Institute of Radio Engineers, Transactions, Apr. 1954. v. AP-2, no. 2, p. 82-90.

MURPHY, E. C. Polar navigation.

p. 215-17. KNECHT, R. W. Evaluation of the radio propagation forecasts of the North Pacific Radio Warning Service. p. 217.

Chapman, S. Auroral radio echo geometry: I. Direct echoes. p. 217-18: abstract of No. 28483.

GREEN, P. L. Radio communications

with ice island. p. 218. ANDERSEN, S. An instance of possible ionospheric wind in the E region at College, Alaska. p. 219-21.

Sociology, economics, education.

BUECHLEY, R. W. First aid for

social accidents. p. 35-37.

MOORE, P. H. Public relations with

the native. p. 38-39.

ROBERTS, P. W. Employment of Eskimos by the Navy at Point Barrow, Alaska. p. 40-43.

MORGAN, A. W. Need of a positive approach for the education of all youth within the Anchorage area. p. 91-94.

Cashen, W. R. The University of

Alaska, age 30. p. 94: abstract. MOORE, T., and A. H. MICK. The future of agricultural education in Alaska. p. 95-97.

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research in Alaska: opportunities and obstacles. p. 155-60.

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HILSCHER, H. How we may speed the social progress of Alaska. p. 160-63. WAGNER, F. W. Employment security in Alaska. p. 164.

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ment of Alaska. p. 164-68.

Special Session.

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Agriculture, forestry, botany.

Llano, G. A. Role of lichens in the practical economy of Alaska. p. 43: title only, no text or abstract given.

KROG, H. Determination of the antibiotic effect of lichen acids. p. 43-45.

PRESCOTT, G. W. Notes on the ecology of the fresh-water algae of the arctic slope of Alaska. p. 46: abstract.

The grasses of GASSER, G. W. Alaska. p. 46-51.

ROBINSON, R. R. Forest management and fire control problems in Alaska. p. 52-54.

LUTZ, H. J. Effects of fire on soils in northern forests. p. 54-55.

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tions in Alaska. p. 193. ABBOTT, I. W. Seed certification work in Alaska. p. 194.

SPENCE, C. C. Economic problems of northern agricultural fringe settlements of Canada. p. 194-96.

STACEY, E. C. The agricultural resources of northwestern Canada. 196 - 97.

Branton, C. I. Use of native materials for Alaskan agricultural structures. p. 197-98: abstract of No. 33714.

SMITH, C. N., and others. Insects affecting man and animals in Alaska, faunal and control studies. p. 199-200

Fisheries, limnology, oceanography.

Nelson, P. R. Review of water fertilization studies at Bare Lake, Kodiak Island. p. 78: abstract of results pub. as No. 41562

VAUGHAN, E. The use of catch statistics for estimating parameters of the pink salmon migration patterns in Icy Strait. p. 78-86.

ATKINSON, C. E. Fish and Wildlife Service research program for Alaska salmon. p. 87-90.

PARKER, R. R., and W. KIRK-NESS. Estimates of the population of spawning king salmon in the Taku River, Alaska, for the year 1951. p. 179-91.

DASSOW, J. A. Technological developments in the Alaska salmon industry. p. 192.

MARVIN, E. S. Fisheries management in lakes of interior Alaska. p. 192.

Anthropology.

PAULS, F. P. Blood factor studies of the Eskimos and Indians of western Alaska II, p. 120.

DONOGHUE, L. The University of Alaska Eskimo music and folklore project. p. 121–25.

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Thompson, D. J. T. Present problems of the northwest Alaska Eskimo. p. 127: title only, no text or abstract given.

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Banfield, A. W. F. The Canadian barren-ground caribou investigations. p. 133: abstract of paper pub. in expanded form, No. 20440.

Leopold, A. S., and F. F. Darling. Effects of land use on ranges and populations of moose and caribou in Alaska. p. 133: abstract of No. 35872.

CHATELAIN, E. F. Distribution and abundance of moose in Alaska. p. 134-36. HURD, P. D., and F. A. PITELKA. The role of insects in the economy of

certain arctic Alaskan birds. p. 136-37. HOCK, R. J. Seasonal changes in the viscosity of the blood of ground squirrels. p. 137-38.

Brooks, J. W. A preliminary report on Pacific walrus investigations. p. 139: abstract of No. 33758.

Wilimovsky, N. J. The utilization of fishery resources by the arctic Alaskan Eskimo. p. 139: title only, no text or abstract given.

RAUSCH, R. L. A summary of current information on some animal-borne diseases in Alaska. p. 144-47.

CODDINGTON, F. L., and P. H. MOORE. Echinococcus cysts in human beings. p. 147-49.

BLOOD, B. D. Notes on hydatid disease control. p. 149-50.

REINHARD, K. R. A distemper-like disease in Alaskan sled dogs. p. 151-53. JELLISON, W. L., and others. An outbreak of schistosome dermatitis in Alaska. p. 153-54.

Alaska. p. 153-54. NELSON, U. C. Waterfowl banding and migrations in Alaska. p. 201-207. SCOTT, R. F. The problem of bio-

geography in Alaska. p. 208-211. IRVING, L., and S. PANEAK. The weight and nutritional status of birds at the arctic terminus of migration.

p. 212. Krog, J. A year cycle of the relation between oxygen consumption and temperature of a fresh-water amphipode from an Alaskan Lake. p. 212: abstract of

No. 35726.

LACHELT, T. C. Suggested use of radioisotopes in wildlife investigations. p. 213-14.

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43551. ALASKAN SCIENCE CONFERENCE. 4th, Juneau, Sept. 28—Oct. 3, 1953. Science in Alaska 1953. Proceedings. College, Alaska. American Association for the Advancement of Science, Alaska Division,\* July 1956. 252 p. text map, diagrs., graphs, tables.

Contains text or listing of nearly a hundred papers presented. They are briefly described under their authors' names in this volume, unless otherwise indicated, of the Arctic Bibliography.

Engineering.

DAY, E. K. Temperature observations on Fairbanks, Alaska, sewer system. p. 1-5.

NELSON, N. E. Pavement design for frost susceptible soils Anchorage International Airport. p. 6-10.

MUKHERJEE, N. R., and R. D. LEAR. Concentration of scheelite by flotation. p. 10-19.

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railroad cutoff). p. 20-21. KITZE, F. F. Engineering studies at Fairbanks Research Area. p. 21.

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ALTER, A. J. Thermodynamic considerations in the design of Alaskan water distribution systems. p. 36-38.

<sup>\*</sup>Address: P. O. Box 960, College, Alaska.

WELLS, R. R. Current metallurgical problems in Alaska. p. 38-41.

PAGE, W. B. Heat losses from underground pipe lines. p. 41-46.

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## Fisheries.

EICHER, G. J. Differential productivity of Bristol Bay red salmon spawning grounds. p. 69-72.

KIRKNESS, W., and R. R. PARKER. An age analysis of the 1951 and 1952 samples of Taku River king salmon by use of stratified subsampling and the

normal curve. p. 72-73. SKUD, B. E. Salinity gradients in the intertidal zone of an Alaska pink salmon stream. p. 73

ELLING, C. H. Some observations on the Icy Strait tagging of 1950. p. 74. THORSON, K. N. Analysis of the

gains and losses to the king salmon fisheries of southeastern Alaska resulting from minimum size limit. p. 75.

MOORE, H. L. Some observations on factors affecting management of the pink salmon fisheries of southeastern Alaska and northern British Columbia with reference to the even years, 1940-1952. p. 75.

EDSON, Q. A. Preliminary report on the Alaska sablefish fishery. p. 76.

CARLSON, C. J. Quality changes in frozen dungeness crab. p. 76-77.

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ALASKAN SCIENCE CONFERENCE. 4th, Juneau, 1953, see also Johnson, H. A. Industrialization and agriculture. 1956. No. 45810.

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Flint, G. M. Résumé . . . geology and geomorphology . . . islands . . . Bering Sea. 1956. No. 44916.

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Miller, M. M. Significance . . . anomalous advances . . . coastal glaciers. No. 46757. 1956.

Péwé, T. L., and R. A. Paige. Frost action on piling . . . 1956. No. 47339.

Waller, R. M. Ground-water supplies . . . Juneau . . . 1956. No. 48846.

Watson, J. R. Engineering and permafrost . . . Glennallen . . . 1956. 48875.

43552. ALASKA'S HEALTH. News notes. (Alaska's health, Juneau, Jan.-

Dec. 1956. v. 13)

Notes in this volume cover training of sanitation aides for Eskimo villages (Feb. p. 1, 6; June, p. 7; Aug. p. 2) and first graduation at the Seward Sanatorium School (Feb. p. 5); speech and hearing therapy (Aug. p. 4; Oct. p. 2); conditions in eye, ear, nose and throat diseases (Apr. p. 1, 4; June, p. 8); atomic bomb fallout (Aug. p. 1, 2); health education films (Aug. p. 4); changes in floating health centers (Oct. p. 6); Alaska Dept. of Health Laboratory (Oct. p. 7), activities in 1955-56 (Dec. p. 2-3), and annual report for 1955-1956 (Dec. p. 2-10). Copies seen: DNLM.

43553. AL'BANOV, VALERIAN IVAN-OVICH, 1881-1919. Im Reich des weissen Todes. Berlin, Verlag Kultur und Fortschritt, 1956. 232 p. illus., fold. map. Text in German. Title tr.: In land of the white death.

German translation by W. Berger of Al'banov's diary (cf. No. 33203, No. Editor's (N. IA. Bolotnikov) preface and notes, and N. V. Pinegin's introduction are slightly abridged.

Copy seen: DLC.

43554. AL'BANOV, VALERIAN IVAN-OVICH, 1881–1919. Mezhdu zhizn'î<u>u</u> i smert'ın; dnevnik uchastnika ekspeditsii Brusilova. Moskva-Leningrad, Gos. izd-vo, 1926. 103 p. (Biblioteka puteshestvil). Text in Russian. Title tr.: Between life and death; diary of a member of Brusilov's expedition.

Abridged reprint of No. 198; all sup-

plements and map omitted; introduction by N. V. Pinegin added (p. 3-13).

Copy seen: DLC.

43555. AL'BANOV, VALERIAN IVAN-OVICH, 1881–1919. Podvig shturmana V. I. Al'banova. Vtoroe izdanie. Moskva, Gos. izd-vo geogr. lit-ry, 1954. 204 p. illus., port., fold. map. Text in Russian. *Title tr.:* Heroic deeds of navigator V. I. Al'banov.

Second edition of No. 33203.

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43556. ALBERT, SALOMON NAPHTALI, 1916–, and J. F. FAZEKAS. Cerebral hemodynamics and metabolism during induced hypothermia. (Current researches in anesthesia and analgesia, 1956. v. 35, no. 4, p. 381–85, table.) 13 refs.

Account of study made on five patients undergoing refrigeration anesthesia, with body temperatures reduced by 3° to 13° C. A moderate to marked reduction of cerebral blood flow, oxygen delivery, and metabolism, coupled with increased cerebral vascular resistance, were observed.

Copy seen: DNLM.

4357. ALBERTA SOCIETY OF PETROLEUM GEOLOGISTS. Lexicon of geologic names in Alberta and adjacent portions of British Columbia and Northwest Territories. Calgary, 1954. [172] p. Mimeographed. Approx. 50 refs. Supplement, Aug. 31, 1955 (21 p.).

Lists 173 stratigraphic units: group, formation, member, etc., including 21 in the Supplement which completes the planned compilation. For each, is given name, author, type locality, history of former names (if any), lithologic characteristics, thickness and distribution, relation to other units, and references. Some names apply to Mackenzie District.

Copy seen: DLC.

43558. ALCOCK, FREDERICK JAMES, 1888— . Zinc and lead deposits of Canada. Ottawa, King's Printer, 1930. 406 p. illus., maps (3 fold.), cross-sections, debles. (Canada. Geological Survey. Economic geology series, no. 8.) Approx. 100 refs.

Includes brief description of regional geology of northern Canada with reference to lead and zinc deposits; then notes occurrences on east coast of Hudson Bay between Richmond Gulf and Little Whale River (p. 131); Reindeer Lake, northern Manitoba (p. 216–17); Great

Slave Lake, Mackenzie District, by J. M. Bell (p. 219–24); Mayo District, Upper Beaver River region, Dawson, Sixtymile, Windy Arm (Bennett-Tagish Lake region), and Wheaton Districts, Yukon, by W. E. Cockfield (p. 226–61); also Copper, Chistochina, and Nabesna River regions, Alaska (p. 359).

Copy seen: DGS.

43559. ALCORN, GORDON DEE, 1907-

. Alaska Lapland longspur, a spring sight record at Westport. (Murrelet, May-Aug. 1956. v. 37, no. 2, p. 22.)

Contains a record of Calcarius lapponicus alascensis, an adult male, observed feeding among drift logs, on May
5, 1950. It is a very rare bird within the
limits of Washington State, especially in
spring time.

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43560. ALDRICH, HARL P., Jτ. Frost penetration below highway and airfield pavements. (National Research Council. Highway Research Board. Bulletin, 1956. no. 135, p. 124–49, 3 text maps, diagrs., graphs, 3 tables.) 16 refs.

Fundamental principles relating to frost penetration into the ground are outlined and a rational method is offered for computing its maximum depth below highway and airfield pavements. Methods are presented also for making quick preliminary predictions of frost penetration, and "design" procedures, based on thermal properties of the soil and weather conditions at the site; cases requiring "exact" solution are referred to numerical and analogue computer Status of current research solutions. related to heat transfer between the airpavement interface by radiation and convection-conduction is discussed. pended is "derivation of a rational formula for the prediction of frost penetration," by the writer and H. M. Paynter .-From author's abstract.

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**43561. ALDRICH, JOHN MERTON. 1866–1934.** An entomologist in Alaska. (Washington Academy of Sciences. Journal, May 19–June 4, 1922, v. 12, no. 10–11, p. 253, 274.)

Recounts trip to Alaska in summer 1921, with notes on faunal region and collecting of insects. The abundance of mosquitoes, horseflies and other blood-sucking flies is stressed, and the apparent absence of the house fly also noted. The relations of the fauna are with the Canadian zone of the northern part of the U. S.; another

element follows the Pacific Ocean southward, and no doubt other elements extend to Greenland and westward across Siberia. Copy seen: DLC.

43562. ALDRICH, JOHN MERTON, 1866-1934. North American two-winged flies of the genus Cylindromyia Meigen (Ocyptera of authors). (U. S. National Museum. Proceedings, May 29, 1926. v. 68, art. 23, no. 2624, p. 1-27, plate.)

Contains a discussion and history of the genus, a key to the species and descriptions of 13, of which nine are new. C. dosiades (p. 8-9) is recorded in Rampart, Alaska.

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43563. ALDRICH, JOHN MERTON, 1866–1934. Revision of the two-winged flies of the genus Coelopa Meigen in North America. (U. S. National Museum. Proceedings, Nov. 16, 1929. v. 76, art. 11, no. 2808, p. 1–6.)

Contains a discussion of this genus, a key to males and females, and descriptions of C. nebularum n. sp. from Pribilof and Commander Islands in Bering Sea, and C. stejnegeri n. sp. from St. Paul and Bering Islands, Skagway, and Katmai, Alaska.

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ALDRICH, JOHN WARREN, 1906—, see Stewart, R. E., and J. W. Aldrich. Distribution . . . blue-winged teal. 1956. No. 48205.

**43564. ALEKSANDROV**, **Ū**. V doline geizerov. (Fizkul'tura i sport, Apr. 1956. god 26, no. 4, p. 40, illus.) Text in Russian. *Title tr.:* In the valley of geysers.

In Sept. 1955, a group of sportsmen achieved the ascent of Kronotskaya Sopka (3,370 m.). Their trip in the Geyzernaya River valley is noted and the activity of the largest geyser, Velikan, is described with photo. Trip was sponsored by Kamchatka Committee for physical education and sports.

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ALEKSANDROV, N. A., see Kondratenko, A. I. Kol'tŝevanie pushnykh zverel . . . 1956. No. 46062.

43565. ALEKSANDROV, S. E., and  $\widehat{\mathbf{IU}}$ . S. DOBROKHOTOV. Ledânye fsvety. (Priroda, Sept. 1956, no. 9, p. 113–14, 2 illus.) Ref. Text in Russian. *Title tr.:* Ice flowers.

"Crystalline ice flowers observed on the surface of sea ice at 88° N. in May 1955 are described. The phenomenon was probably similar to that observed by Scott in Antarctica in 1912, with crystalline plates of sea ice as large as several sq.
cm. grouped around a crystallization
point. The formation appeared on the
surface of new ice in a fissure up to 250 m.
wide during calm and clearer weather,
with air temperature at about -19. C."—
SIPRE. Copy seen: DLC.

43566. ALEKSANDROVA, V. D. Rastitel'nost' f\(\tilde{\text{Uzhnogo}}\) ostrova Novoi Zemli mezhdu 70°56' i 72°12' s. sh. (Rastitel'nost' Krainego Severa SSSR i ee osvoenie, 1956. vyp. 2, p. 187–306, illus., tables, maps.) Approx. 150 refs. Text in Russian. Title tr.: The vegetation of the southern island of Novaya Zemlya between 70°56' and 72°12' N.

Monographic study based partly on the author's investigations in 1931-1933 (cf. The physical conditions: geomorphology, climate, seasonal changes, geological formations and soils are outlined (p. 192-213); the flora and plant associations of various parts of the island are described in detail, with emphasis on utilizing vegetation for reindeer pastures. Latitudinal and vertical zoning is discussed; the lichen-, small shrub- and grass tundras, are characterized, as are grass-, grass-moss- and moss marshes, also polar deserts: three belts of the mountainous area (to 200 m., 200-300 m., and over 300 m. altitude), are sketched. Gusinaya Zemlya is described in six zones, Mezhdusharskiy Island in five and the Kara seacoast between Savina and Abrosimova Rivers in four zones. Together these summer and winter pastures are capable of feeding 3,000-4,000 reindeer. A summary (27 tables) of the plant associations is added, and the plants mentioned throughout the paper are included (Latin names) in the cumulative index of the volume, p. 498-509.

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ALEKSEEV, TÜRIĞ K., see Moroz, I. Diûchi avtomatychni meteostantsii. 1956. No. 46846.

ALEKSEEV, ÎTRII K., see also News. Automatic polar stations. 1956. No. 46997.

ALEKSEEV, K. V., see Polonskii, N. V., and K. V. Alekseev. Geografo-gidrologicheskie . . . Umby. 1933. No. 47392.

43567. ALEKSEEV, S. V., and E. I. SHALAGAI. Nachalo vesny v severnoï talge. (Priroda, Apr. 1956, no. 4, p. 128)

Text in Russian. Title tr.: The beginning of spring in the northern taiga.

Contains phenological data on snow melting, weather conditions, arrival of birds, emergence of insects, beginning of the vegetative period of plants, etc., in northern section of Arkhangel'sk province.

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43568. ALEVA, GERARDUS JACOBUS JOHANNES. The fragment bearing gneissose rocks of the Gabbi-Mesket region, Swedish Lapland. (Geologiska föreningen, Stockholm, Förhandlingar, 1951. bd. 73, häfte 2, no. 465, p. 200–204, diagr.) 4 refs.

Reply to Kautsky's review of No. 43569, dealing with differences of opinion. Apparently the rocks, on the one hand a polymict conglomerate and on the other a series of fragment-bearing gneissose rocks, believed to be compared, are actually quite dissimilar in nature and origin. The author suggests for the particular section of the mountains where the gneissose rocks are found, an hypothesis which involves shoving, shearing, fragmentation, faulting, intrusion, metamorphism, and partial melting of wall rock, which is the presently considered fragment-bearing outcrop.

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43569. ALEVA, GERARDUS JACOBUS JOHANNES. Geology and petrology of the Gabbi-Mesket region, Swedish Lapland. Academisch Proefschrift, Universiteit van Amsterdam. Assen, Van Gorcum, 1950. 158 p. 60 illus., 4 maps (Amsterdam, Universiteit, Geologische Instituut, Mededeling no. 164) 32 refs. Summary in Dutch.

The Gabbi-Mesket region, in Sorsele parish in Västerbotten (approx. 66°-66°10′ N. 15°10–15°30′ E.) has no permanent habitations or paths, although

permanent habitations or paths, although there are a few Lappish shelters. Relief is moderate, ranging from ca. 600-1400 m. The minor landscape elements are the results of glacial deposition and the erosive activity of valley glaciers. There are hanging valleys, cirques, glacial lakes, and unintegrated streams, among other features, along with the bedrock surface, only occasionally covered with loose earth and moor vegetation. Treatment of the bedrock is divided into geological outline, description of the geologic units, petrography and petrology, and general considerations of metamorphism, migmatization, instrusion, gneissic develop-

ments, folding, and thrusts. Reviewed

by Gunnar Kautsky in Geologiska föreningen, Stockholm, Förhandlingar, 1950, bd. 72, häfte 2, no. 461, p. 228–30. Copy seen: DGS.

43570. ALEXANDER, CHARLES PAUL, 1889- . New species of two-winged flies from western North America belonging to the family Tipulidae. (U. S. National Museum. Proceedings, Mar. 11, 1924. v. 64, art. 10, no. 2500, p. 1–16.)

Includes descriptions of six new species and one new subspecies from Alaska and southern Alaska. **Copy seen:** DLC.

43571. ALEXANDER, CHARLES PAUL, 1889 - . Two new crane-flies from Point Barrow, Alaska. (Pan-Pacific entomologist, July 1956. v. 32, no. 3, p. 123–25.)

Describes: Prionocera gracilistyla n. sp. and Pedicia (Tricyphona) hannai antennata n. subsp. collected in summer 1950, by N. A. Weber. Copy seen: DA.

43572. ALEXANDER, CHARLES PAUL, 1889 - . Undescribed species of craneflies from the eastern United States and Canada; Dipt.: Tipulidae. Pts. X, XII. (Entomological news, Dec. 1946, v. 57, no. 10, p. 245–52; (XII) July 1956, v. 67, no. 7, p. 177–95.)

Four new species are described in pt. X, of which Tipula (Arctotipula) thulensis n. sp. is recorded in Northwest Territories, Baffin Island, Clyde River, 70° N. In pt. XII, descriptions are given of a new subspecies, including Tipula (Vestiplex) breviligula n. sp. from Cape Henrietta Maria, Hudson Bay, Ontario, also T. (Arctotipula) tribulator n. sp., and D. (Dicronota) clementi n. sp. both from northern Quebec. Of this series, the other parts (I-IX, XI, XIII) do not contain arctic material.

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43573. ALEXANDER, ROBERT G. Arctic locomotives. (Military engineer, Mar.-Apr. 1956. v. 48, no. 322, p. 104-105, illus.)

Contains results of tests made in Greenland with special tractors for sled trains. The first diesel models with track shoes 36 in. wide were modified after tests in 1953-54 into larger units incorporating a torque converter and lower ground pressure. These modified tractors were tested on powder snow with ladder tracks of round tubular grousers

under a ski 36 in. wide, and with conventional grousers 36 in. wide. Maximum drawbar pull with the ladder track grouser was 15,000 lb. in second gear without slippage. The tractors could not turn with a load requiring more than 7500 lb. drawbar pull. Suggestions for further improvements are made.

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43574. ALFER'EV, N. N. O predokhranenii dereviannykh konstrukfsif ot gnienifa v severnykh rafonakh. (Transportnoe stroitel'stvo, Feb. 1956, god 6, no. 2, p. 19–22, 5 illus.) Text in Russian. *Title tr.*: Protection of wooden structures from rotting in northern

regions.

"The increased moisture in the ground and air associated with permafrost and a severe climate cause intense rotting of wooden floors and walls. Provision for air circulation around the foundations in winter and removal of the snow around buildings for a distance of at least 2 m. are sufficient to prevent permafrost degradation and increased moisture. The construction of triple walls exposed to the prevailing winds was found to be effective for protecting against cooling and condensation of water vapor on interior walls."—SIPRE.

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43575. ALIFANOV, V. N. Vlifanie gipoksii i nizkogo barometricheskogo davlenifa na motornufi i senzornufi khronaksifu u cheloveka. (Bfülleten' ėksperimental'noI biologii i medifsiny, Jan. 1956. t. 41, no. 1, p. 27–30, tables.) 6 refs. Text in Russian. Title tr.: The influence of hypoxia and low barometric pressure on motor and sensory chronaxia of man.

Account of several series of experiments with 70 subjects aged 20-30 yrs. In cases of good tolerance of low barometric pressure, rheobasis varied around original figures and motor or sensory chronaxia in the majority of cases remained unchanged. During bad tolerance the chronaxias, especially motor chronaxia, increased.

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**43576.** *ALL HANDS.* Cold facts on ice. (All hands, Dec. 1956. no. 479, p. 32–33, illus.)

Fourteen types of land and sea ice are described and illustrated. Brief comments are added on the formation of sea ice, the physical properties of icebergs, and ice observations.

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43577. ALL HANDS. Forty below. (All hands, Nov. 1956. no. 478, p. 18, illus.)

Work of the U. S. Navy's frogmen in aiding supply operations for the DEW Line is described briefly and illustrated. During the 1956 season's operations off Point Barrow, the frogmen made close-up checks of ice conditions in rubber boats. Underwater demolition personnel checked the ice depth, planted explosives to open leads, and inspected hull damage to ships from the ice.

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43578. ALL HANDS. The tale of Habbakuk, the ice cube carrier of WW II. (All hands, Dec. 1956. no. 479, p. 31,

illus.)

The plan originated by the British in 1942 for building a two million-ton aircraft carrier of ice reinforced with wood pulp is reviewed briefly. A 100-ton model was built at Patricia Lake, Jasper, Canada, during the winter of 1943. Technical problems and a reduction in the submarine menace caused the plan to be dropped late in 1943.

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43579. ALL HANDS. U. S. Navy helps stock DEW Line's 'deepfreeze'. (All hands, Dec. 1956. no. 479, p. 28–30, illus.)

Supply operations carried out by a 56-ship Navy task group during the 1956 season are described and illustrated. The ships were divided into five separate task units to service as many resupply zones extending from Cape Lisburne on the west coast of Alaska eastward to Shepherd Bay, 200 mi. north of Hudson Bay. Unloading operations were maintained on a 24-hr.-a-day basis and were accomplished mainly by small amphibious craft. Only minor ship damage was sustained during the supply operations.

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43580. ALLAN, JOHN DONALD, 1915—. Geology of the Hughes Lake area, Granville Lake division, Manitoba. Winnipeg, 1948. 15 p. fold. map 16 x 21 in., table. (Manitoba. Dept. of Mines and Natural Resources. Mines Branch. Preliminary report 47–3) 2 refs.

Map (scale 1 in.: 1 mi.) covers the area 56°45′-57° N. 100°30′-45′ W. in the

Lynn Lake region. Geological mapping was carried out June-Sept. 1947. Physical features are described. Bedrock is Precambrian. Oldest is the Archean Wasekwan series of interbedded volcanic and sedimentary rocks, unconformably overlain by the Sickle series of conglomerate and quartzose sediments. formations are intruded by igneous rocks ranging from gabbro to granite. rocks are highly folded and metamorphosed, and evidence of faulting is widespread. Exploration for nickelbearing ore-bodies and for gold is described. No deposits of economic importance have been found.

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43581. ALLAN, JOHN DONALD, 1915— Lynn Lake area; notes to accompany preliminary map 46–2. [Winnipeg, 1946?] 3 p. fold. map 30 x 42 in. Mimeographed. (Manitoba. Dept. of Mines and Natural Resources. Mines Branch. Preliminary report 46–2)

Map (scale 1 in.: ½ mi.) covers the area 56°45′-57° N. 101°00′-15′ W. The central and southern parts, underlain by the early Precambrian Wasekwan series (pre-Sickle) of interbedded volcanic and sedimentary rocks, are described; structural interpretation is given. Extensive areas of post-Sickle granitic rocks and a sedimentary gneiss, schist and granite complex occupy the northern map-area. Nearly all rocks are cut by small granite, porphyry, and felsite intrusions. Occurrences of nickel and copper and preliminary development by Sherritt Gordon Mines Ltd. are noted.

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43582. ALLEN, C. F., and S. W. MIL-LER. Seismic measurements on the Greenland Ice Cap. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, pub. 1954. p. 351–74, illus., maps incl. 1 fold., graphs, diagrs., 1 fold.) 4 refs.

"Seismic soundings were made between Thule Ramp and Point X, a distance of 320 mi. by weasel. Seismic velocity computations using the 'delta t' method placed the seismic velocity in ice at 12,500 ft./sec. ±200 ft./sec. Ice thickness along the party route varied between 500 ft. near Thule Ramp and 8080 ft. at Point X. The bedrock profile is very irregular as far east as Alpha. Beyond this point the bedrock surface has less relief and slopes generally down to the east. More work is necessary in the marginal zone before a

map of the bedrock topography can be made. The route is mapped, and seven cross-sectional profiles are given."—Authors' abstract.

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43583. ALLEN, JOHN M. The influence of cold, inanition and insulin shock upon the histochemistry of the adrenal medulla of the mouse. (Journal of histochemistry and cytochemistry, July 1956. v. 4, no. 4, p. 341-46, illus.) 14 refs.

Animals exposed to 4° C. for 7 or 14 days showed isolated areas of phosphatase activity in the medulla, with both cytoplasm and nucleus reacting intensely; the connective tissue stroma also gave a strong phosphatase reaction. Release of noradrenaline under conditions of cold stress has also been demonstrated.

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43584. ALLEN, LOUIS P. Task Force 68 hydrographic report, section B. Washington, D. C. Nov. 17, 1947. 3 p.l., 22 l. photostat of mimeographed item. (U. S. Hydrographic Office, Misc. 11, 990)

Arctic weather is divided into two climatic regimes: frigid arctic and temperate arctic. General weather conditions of each are characterized. Problems resulting from astronomical refraction which are heightened during the arctic summer due to the low sun's altitude are Problems also arise from outlined. electromagnetic refraction, and under certain meteorological conditions radar performance is atypical. Brief remarks are given on the problem of ice navigation. Spot observations of ice conditions made during the 1947 summer observations are recorded for Smith Sound (July 26-28), Port Leopold (Aug. 1-2), Norwegian Bay (Aug. 4-10), Jones Sound (Aug. 13), and Melville Sound (Aug. 16–20).

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ALLEN, ROBERT EDWARD, 1919—, see David, L. R. Thorium, a bibliography . . . 1963. No. 44553.

43585. ALLEN, WINFRED EMORY, 1873–1947. Surface plankton diatoms in the North Pacific Ocean in 1934. (Madroño, Apr. 1936. v. 3, no. 6, p. 250–52.)

Contains data on 141 surface catches of phytoplankton (mostly diatoms) collected by R. R. Revelle in the summer of 1934 during a cruise of the USS. Bushnell around the Gulf of Alaska and southward from the Aleutian Islands to the Hawaiian Islands. The catches of 1934 are compared with those made in 1923 and 1924. This investigation shows that diatoms may occur at the surface in notable numbers and suggestion is made that there is a mid-ocean flora to be investigated.

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43586. ALLGÉN, CARL ALGON JÖNS-SON, 1886— Das Bipolaritätsproblem freilebender mariner Nematoden. (Norske videnskabers selskab. Trondheim. Forhandlinger, 1953. bd. 26, no. 8, p. 28–35, text map) 18 refs. Text in German. Title tr.: The bipolarity problem of the free-living marine nematodes.

Faunas of the Antarctic and adjoining regions (Tasmania, New Zealand, Auckland Island, etc.) are discussed, and ten species of bipolar distribution noted. Five southern species occur also in northwest Greenland waters, Barents Sea and Svalbard.

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43587. ALLGÉN, CARL ALGON JÖNS-SON, 1886– . Die Claparèdielliden Norwegens. (Norske videnskabers selskab, Trondheim. Forhandlinger, 1954. bd. 27, no. 8, p. 37–41, 7 illus.) 18 refs. Text in German. *Title tr.*: Claparèdiellidae of Norway.

Contains descriptions, synonymy and distributional data on six species native to Norwegian waters. Claparèdiella tristicochaeta (Rødøy, Gåsnes and Stappen) and Prochaetosoma cygnoides of Barents Sea are included.

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43588. ALLGÉN, CARL ALGON JÖNSSON, 1886– . Die Desmocolecoidea Norwegens, I–II. (Norske videnskabers selskab, Trondheim. Forhandlinger, 1954. bd. 27, no. 12, p. 59–63, 5 illus.; no. 13, p. 64–68, 7 illus.) 20 refs. Text in German. Title tr.: Desmocolecoidea of Norway, I–II.

Contains a systematic list of 13 species of this family, with synonyms, critical notes and distributional data. Desmocolex strandi, occurring in Rødøy, Reis, Stjernsund and Stappen, is included.

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43589. ALLGÉN, CARL ALGON JÖNS-SON, 1886- Norwegische marine Nematoden. (Zoologische Jahrbücher; Abt. für Systematik, Geographie und Biologie, 1943. Bd. 76, Heft 4, p. 267-322, 21 illus.) 105 refs. Text in German. Title tr.: Norwegian marine Nematoda.

Contains a systematic annotated list of about 100 species in 60 genera, two described as new, and 12 new to the fauna of region. Many of the species are native to northern Norwegian waters. Station list and synopsis of species precedes the main record.

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43590. ALLGÉN, CARL ALGON JÖNSSON, 1886—. Über einige weitere Südsee-Nematoden in der Strand-Fauna Norwegens. (Norske videnskabers selskab, Trondheim. Forhandlinger, 1954. bd. 27, no. 15, p. 75–79, 6 illus.) 12 refs. Text in German. Title tr.: On some additional South Sea nematodes in the coastal fauna of Norway.

Critical and distributional notes are offered on six bipolar species, among them three, Prochromadorella paramucrodonta, Theristus macquariensis and Tuspidospiculum, which occur in both southern and Norwegian (Rødøy, Mehamn) waters. Copy seen: DLC.

43591. ALLGÉN, CARL ALGON JÖNSSON, 1886— Vergleich zwischen den marinen Nematodenfaunen Norwegens und der Arktis. (Norske videnskabers selskab, Trondheim. Forhandlinger, 1954. bd. 27, no. 5, p. 22–26) Text in German. Title tr.: Comparison between the marine nematode faunas of Norway and the Arctic.

Contains a statistical tabular survey (table A) of the nematode fauna of Norwegian waters (330 species in all) arranged by geographic regions, and showing content (percent) of species common to this region and the Arctic. Table B gives a statistical survey of 15 arctic regions (240 species in all) and content of Norwegian species for each. Common traits and differences of various regions are considered.

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43592. ALLGÉN, CARL ALGON JÖNSSON, 1886— Vertreter amerikanischer mariner Nematoden-Gattungen im Faunengebiet Norwegens. (Norske videnskabers selskab, Trondheim. Forhandlinger, 1954. bd. 27, no. 16, p. 80–85, 9 illus.) 13 refs. Text in German. Title tr.: Representatives of American nematode genera in faunal region of Norway.

Six nematode genera are noted as occurring in both American and Norwegian waters, among them Xennella suecica recorded in Stappen, northern Norway.

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43593. ALLGÉN, CARL ALGON JÖNSSON, 1886— . Zur Kenntnis norwegisher Nematoden XXI–XXII. Über einige freilebende marine Nematoden aus der Strandzone von Steinkjer. (Norske videnskabers selskab, Trondheim. Forhandlinger, 1949. bd. 22, no. 16–17, p. 62–69, illus.) Text in German. *Title tr.*: A contribution to the knowledge of Norwegian Nematoda XXI–XXII. On some free-living nematodes of the coastal zone of Steinkjer.

Contains a list of 16 stations on the Norwegian coast, six between Rødøy (66°40′ N. 13°03′ E.) and Kjelmøy in Sørvaranger (69°59′ N. 30° E.), followed by an annotated list of 15 species (one new). At least five of the species occur

in northern Norwegian waters.

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**43594.** ALLINGTON, HERMAN V. Eczematous and polymorphous hypersensitivity to light. (American practioner and digest of treatment, Aug. 1956. v. 7, no. 8, p. 1318–25.) 41 refs.

Contains information on normal and abnormal skin reactions to sunlight; types of pathological reactions, their symptoms and diagnosis; spectra affecting the skin; mechanisms of injury; internal factors; therapy; prophylaxis.

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43595. ALLISON, A. C., and others. The blood groups of the Swedish Lapps. (Royal Anthropological Institute of Great Britain and Ireland. Journal, Jan.-June 1956. v. 86, pt. 1, p. 87-94, tables) 19 refs. Other authors: B. Broman, A. E.

Mourant, and L. Ryttinger.

Study of 346 specimens from individuals of pure Swedish Lapp extraction. Most of the specimens (193) were collected on the Oxford Lapland Expedition ABO, MNS, Rh, P, Kell, Duffy and other groups were determined. An extremely high frequency of the A2 gene, a trait common to all Lapps, was estab-Differences between this group lished. and the Norwegian Lapps were observed in the ABO group as a whole; the N group was found to be the highest in Europe, somewhat higher than that of the Norwegian and Finnish Lapps. Other peculiarities are also discussed.

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43596. ALM, GUNNAR OLOF, 1889—. Ostracoden aus den nordschwedischen Hochgebirgen, zweite Mitteilung. (In: Hamberg, A. Naturwissenschaftliche

Untersuchungen des Sarekgebirges in Swedisch-Lappland, 1907–1939. Bd. 4, Zoologie, Lfg. 5, pub. 1914. p. 639–64, 5 illus., 2 tables.) 43 refs. Text in German. Title tr.: Ostracoda from the high mountains of northern Sweden, contribution 2.

Contains descriptive and critical notes on 15 species (one new) and three new varieties. The vertical distribution of fresh-water ostracods in various zones of the region is tabulated, as is the distribution in various arctic and temperate regions. Cosmopolitan, arctic-circumpolar and endemic elements of this fauna are discussed. This paper is supplementary to No. 44755.

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ALMEIDA, TAVARESDE, see International Commission for NW. Atlantic Fisheries. Annual proceedings . . . 1955-56. 1956. No. 45703.

43597. ALMQUIST, ERIK, and R. FLORIN. Förteckning å svenska nationalparker samt å fridlysta natursminesmärken. Tredje upplagan. Stockholm, 1932. 66 p. (Svenska vetenskapsakademien, Skrifter i naturskyddsärenden, nr. 21) Refs in text. Text in Swedish. Title tr.: Inventory of Swedish national parks and of protected natural objects. Third edition.

Four of Sweden's 14 national parks are in Norrbotten: Abisko, Stora Sjöfallet, Sarek, and Peljekaise. Data are given on their establishment and location and pertinent literature is cited. The protected natural objects in Norrbotten include seven identified vegetation species, two pine trees near Porjus, and a region of mountain flora in Jukkasjärvi parish.

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**43598.** ALPINE JOURNAL. Mount McKinley: first traverse and first ascent of south Buttress. (Alpine journal, Nov. 1955. v. 60, no. 291, p. 367-69, illus.)

Contains brief account of ascent of South Peak of Mt. McKinley via Ruth Glacier and South Buttress, by E. Thayer, G. Argus, L. Viereck, and M. S. Wood, Apr. 17-May 25, 1954. On the descent, Thayer was killed and Argus injured.

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43599. AL'TBERG, V. A. Struktura l'da. (In: Veïnberg, B. P., and others: Led . . 1940. p. 228-38, illus., diagr.) 12 refs. Text in Russian. Title tr.: Ice structure.

The crystallographic structure of ice is described on the basis of X-ray analyses. The atomic arrangement of water and ice is reviewed after Millikan, Bernal, and Fowler, and related to temperature variation. The tetrahedral configuration of protons and electrons in freezing water is related to supercooling and to density changes during freezing and thawing. The  $\alpha$ -type configuration for ice at a temperature near 0° C. and the  $\beta$ -type below 0° C. is confirmed.

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43600. ALTER, AMOS J. Alaska water pollution control investigations. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 19–20.)

Comprehensive physical, chemical, and biological investigations of the waters of Alaska were initiated by the Alaska Water Pollution Board in the summer of 1951. Ward Cove near Ketchikan was the site for the first attempt to evaluate water assets and liabilities in Alaska: year-around observations were begun on (1) types and numbers of marine plants and animals; (2) water temperature, turbidity and color; (3) tidal movement and exchange; (4) freshwater discharge into the cove; (5) type and strength of wastes entering the cove; (6) initial dissolved oxygen, percent oxygen saturation and five-day biochemical oxygen demand; (7) most probable numbers of coli-form bacteria; (8) total, dissolved, ignited, and ignited dissolved solids; (9) pH, chlorides, sulphates, iron, magnesium, and calcium. A summary of the results obtained is included.

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**43601.** ALTER, AMOS J. Thermodynamic considerations in the design of Alaskan water distribution systems. (*In:* Alaskan Science Conference . . 1953. Proceedings, pub. 1956, p. 36–38.)

Problems inherent in community water systems designed for areas where the mean annual temperature is below freezing and some remedies are described. Potable water supplies are usually heated at the source or heated by some means at points throughout the system. Most failures have been due to one or more of the following: water supercooling with frazil ice formation, damage from seasonal frost, poor drainage, structural failure due to permafrost thawing, complicated operating features, and uneconomical design features. To operate satisfactorily, the system must be de-

signed to provide a positive heat balance with heat losses controlled to maintain structural stability.

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43602. ALVERSON, DAYTON L., 1924- . New records for marine fishes from southeastern Alaska. (Copeia, Mar. 21, 1951, no. 1, p. 86.)

Contains notes on two black skates, Raja kincaidi, five specimens of Leuroglossus stilbius, a deep-water smelt-like fish, and numerous specimens of the pale eelpout, Lycodapus mandibularis, all taken in Mar. 1950 in Clarence Strait, Southeast Alaska by the U. S. Fish and Wildlife Service vessel John H. Cobb. These records extend considerably the known northern range of these species.

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43603. ALYMOV, V. K. Lopari Kol'skogo poluostrova. (Murmanskoe obshchestvo kraevedenifā. Doklady i soobshchenifā, 1927, vyp. 1, p. 7–22, tables.) Text in Russian. *Title tr.*: The Lapps of Kola Peninsula.

Of the 30,000 Lapps of northern Europe, 20,000 live in Norway, 6,500 in Sweden, over 2,000 in Finland, and only 1,700 in Kola Peninsula, U. S. S. R. The Kola Lapps are not dying out: they numbered only 1,132 in 1732. Their occupations (hunting, fisheries and reindeer husbandry) are outlined and the importance of reindeer breeding, which represents 60 percent of their economic assets, is stressed.

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43604. ALYMOV, V. K. O seldakh. (Murmanskoe obshchestvo kraevedenifā. Doklady i soobshchenifā, 1927. vyp. 1, p. 44–45.) 2 refs. Text in Russian. *Title tr.:* About the sacred stones.

Information of O. Komaretskafa (q. v.) on the Kola Lapps' belief in lake spirits in sacred stones or seldy is compared with that published in V. ÎŪ. Vize's paper Loparskit ėpos (No. 32767). Text is given of two Lapp tales of these spirits as recorded by the writer.

Copy seen: SPRI; DLC (microfilm).

ALYMOV, V. K., see also Murmanskoe obshchestvo kraevedenifa. Obshchestvo . . . 1927. No. 46905.

43605. ALYSHEV, M. ÎA., and G. V. SHEREMETEV. Perspektivy ėlektrosnabzhenifa sel'skogo khozfalistva. (Nauka i peredovol opyt v sel'skom khozfalistve, Nov. 1956. god 6, no. 11,

p. 7-11, table, map.) Text in Russian. Title tr.: Prospects of supplying elec-

tricity for farming.

Present situation in electrification of kolkhozes and sovkhozes is outlined and shown on the map, including part of Kola Peninsula, Arkhangel'sk Province, Vorkuta District and Yakutia; the further increase in consumption of electric power by agriculture is estimated.

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AMARANTE, M., Jr., see Tender, B., and others. Modificações electrocardiográficas . . . 1955. No. 48357.

43606. AMBACH, w. Über Strahlungsdurchlässigkeit des Gletscher-(Akademie der Wissenschaften, Wien. Mathematisch-naturwissenschaftliche Klasse. Sitzungsberichte, 1955. Abt. 2, Mathematik, Astronomie, Physik, Meteorologie und Technik. Bd. 164, Heft 8-10, p. 483-94, graphs, tables.) 9 refs. Text in German. Title tr.: The transmissivity of glacier ice.

The results of field studies in the summer of 1955 are tabulated, graphed, and analyzed. Thermoelectric measurements gave an extinction coefficient of 0.057/cm. The values obtained by this method and by use of a photoelement are used to develop a differential equation which expresses the transition of direct to scattered radiation, and to calculate the decrease in radiation intensity in undisturbed ice. 

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43607. AMBARTSUMIAN, GEVORK ALEKSANDROVICH, and others. Novyi tip shugosbrosa. (Gidrotekhnika i meliorafsifa, Jan. 1956. t. 8, no. 1, p. 35–43, tables, illus., graphs.) 6 refs. Text in Russian. Other authors: G. A. Gıŝrakıfan, V. G., Mikaelıân, and A. K. Kashyklemanıân. Title tr.: New sludge remover.

"The performance of various sludge removers currently used in the U.S. S. R. for protecting hydroelectric plants was studied with models. The data collected are tabulated and mathematically analyzed. Best results were obtained with a new design which is described in detail. The design provides for about a 30 percent increase in flow speed which reduces sludge collection."—SIPRE.

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43608. AMBARTSUMOV, EVGENIĬ ARSHAKOVICH. Sovetsko-finlândskie otnosheniâ. Moskva, Gos. izd-vo polit. lit-ry, 1956. 103 p. 83 refs. Text in Russian. Title tr.: Soviet-Finnish relations.

Presents the Soviet view of relations with Finland from the 11th century to the war of 1941-44, and the treaty of friendship, collaboration and mutual aid in 1948. Post-war economic relations and interchange in the cultural sphere and social life are outlined, a collaboration aimed at peace and the security of nations. The international significance of Soviet-Finnish friendship is stressed. Some statistical data are included (p. 39-66) on Finland's reparations to the U. S. S. R., also on exports and imports, and general economic development.

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43609. AMÉEN, LOUIS. På hyddstakning i Lappland. (Svenska turistföreningen, Stockholm. Årsskrift, 1900, p. 30–65, 9 illus., 6 plates.) Text in Swedish. *Title tr.:* Staking out hut sites in Lapland.

Reports the Swedish tourist union representatives' trip to space and locate hut sites along principal routes, for an expanding tourism. Their survey in the unsettled mountain region beyond Kvikk-jokk, Jokkmokk, and Gällivare was limited by provisions, porters, and poor weather to the Kvikkjokk-Stora Sjöfallet section. Scenery, trail description, and choice of several sites are treated in detail.

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43610. AMÉEN, LOUIS. Solförmörkelseexpeditionen till Stora Sjöfallet den 3–15 Augusti 1896. (Svenska turistföreningen, Stockholm. Årsskrift, 1897, p. 39–70, 11 illus.) Text in Swedish. Title tr.: The solar eclipse expedition to Stora Sjöfallet, Aug. 3–15, 1896.

An international group traveled on foot from Gällivare, via Porjus and Harsprånget, to observe the eclipse near Stora Sjöfallet on the upper Lule River. Detailed description is given of the landscape and conditions en route and the astronomical phenomenon. The possibilities of Lapland as a recreation region are stressed.

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43611. AMÉEN, LOUIS. Våra medhjälpare. (Svenska turistföreningen, Stockholm, Årsskrift, 1898, p. 422–28, 14 illus.) Text in Swedish. *Title tr.:* Our fellow workers.

Tribute to early leaders in the Swedish Tourist Union, among them K. A. Fredholm, authority on Lapland, also

A. E. Abrahamson of Gällivare and Reinhold Wastfelt of Jokkmokk, both leaders and authorities on their sections of arctic Sweden. *Copy seen:* DGS.

43612. AMERICAN ALPINE JOUR-NAL. Spitzbergen. (American alpine journal, 1956. v. 10, no. 1, issue 30, p. 136.)

Note on mountaineering in Vestspitsbergen in summer 1955. An Austrian group from Salzburg, led by W. Frauenberger, made 40 ascents in the Brucebyen area and did topographic and glaciological work. Another Austrian party made four ascents in the Adventfjorden area. A Munich, Germany, group was active in the Woodfjorden area.

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**43613.** AMERICAN CITY. Alaska city notes. (American city, Sept. 1956. v. 71, no. 9, p. 174, 177.)

Bond issues for new port construction, street improvement, and storm drains were approved by Anchorage voters; annual summer installation is noted of Nome's water mains which are taken up each winter; also redevelopment of blighted residential areas in Sitka. Skagway has approved granting Canada access to the Pacific through Lynn Canal, if U.S. is permitted to use headwaters of Yukon River for hydroelectric plant and smelters at Skagway. Juneau's projected comprehensive community plan with federal urban planning assistance grants is noted. Congressional action now permits Alaska to incur bonded indebtedness up to \$20,000,000 and to share in regular federal aid funds for highways. Copy seen: DGS.

AMERICAN METEOROLOGICAL SO-CIETY, see Somov, M. M. Observational data . . . drifting station of 1950– 1951 . . . 1956. No. 48121.

AMERICAN METEOROLOGICAL SO-CIETY, see also Zikeev-Stepanova, N. A. Selective . . . bibliography . . . meteorology . . . Arctic. 1956. No. 49059.

AMOSOV, IVAN OLEGOVICH, 15th century, see Badigin, K. S. Po studenym mor $\hat{a}$ m . . . 1956. No. 43811.

ANCELLIN, JACQUES, see International Commission for NW. Atlantic Fisheries. Annual proceedings . . . 1955–56. 1956. No. 45703. 43614. ANDER, KJELL, 1902– . De boreoalpina Orthoptera. (Suomen hyonteistieteellinen aikakauskirja, 1948. v. 14, liite suppl., p. 48–55.) Text in Swedish. Summary in English and Finnish. *Title tr.:* The boreo-alpine Orthoptera.

Contains a study of three species: Melanoplus frigidus, which is incapable of flying, lives in the alpine region of Scandinavia and the Alps and in the tundra or taiga region of Siberia and North America: Dasyhippus variegatus, in northern Finland, the Alps and in the alpine region and tundra of Siberia: Aeropus (Gomphocerus) sibiricus inhabits central and southern Europe, Arkhangel'sk province and a great area of These species probably migrated to Europe from Siberia and may be counted among the Angara element of the Palaearctic fauna, which have their origin in eastern Asia: the contribution of the cold-resistant, Siberian element to the boreal fauna of Europe is of great importance. Copy seen: DLC.

43615. ANDER, KJELL, 1902 - Rätvingar: Orthoptera. (In: Sjöstedt, Y. Insektfaunan inom Abisko nationalpark, III. pub. in Svenska vetenskapsakademien. Skrifter i naturskyddsärenden, 1931, nr. 18, p. 64–69.) Text in Swedish. Title tr.: Locusts: Orthoptera.

Two families of Orthoptera are represented by three species in the Abisko region of arctic Sweden. Dates and locations of observations are noted, subspecies differentiated, and known distribution given. Copy seen: DLC.

43616. ANDER, KJELL, 1902–. Trollsländor: Odonata. (In: Sjöstedt, Y. Insektfaunan inom Abisko nationalpark, III, pub. in Svenska vetenskapsakademien. Skrifter i naturskyddsärenden, 1931, nr. 18, p. 60–63.) Text in Swedish. Title tr.: Dragonflies: Odonata.

Larvae of this order were found in the Abisko region in small or quiet water bodies differing little in elevation from Torneträsk (341 m.) in arctic Sweden. Six species in three families are identified, and degree of maturity noted with date and location. Variations in species and known geographical range are included.

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43617. ANDERSEN, EINAR, 1905- . Geodætisk Institut 1928-1955. (Geografisk tidsskrift 1956. bd. 55, p. 1-20, port., diagrs.) Text in Danish and French. Title tr.: The Geodetic

Institute 1928-1955.

Contains a history of the institute and of its two predecessors, Den Danske Gradmåling (The Danish Survey Office) and the topographical department of the General Staff. Included are notes on work in Greenland, started on a preparatory expedition in 1922 and continued from 1927 onwards. Triangulation along the west coast from Kap Farvel to Thule and in certain areas on the east coast, e. g. Scoresbysund was carried out, also gravity measurements along the Maps on scales 1:250,000 west coast. and 1:50,000 have been prepared for large areas, particularly on the west coast, and on scale 1:2,000 for all large towns. Head of the institute 1928-1955 has been N. E. Nørlund, previously head of The Danish Survey Office.

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43618. ANDERSEN, F. SØGAARD. Zoologi og biologisk krigsførelse. (Naturens verden, København, 1953. årg. 37, hefte 9–10, p. 291–300.) Refs. in text. Text in Danish. Title tr.:

Zoology and biological warfare.

The "Report of the International Scientific Commission for the Investigation of the Facts Concerning Biological Warfare in Korea and China" includes reference to the insect, Orthocladius, subspecies Chaetocladius, having been found on Svalbard and Greenland. Other varieties of the species, which is capable of typhus-infection, are known to survive temperatures slightly below freezing. Incubation of the species takes place in water, is therefore susceptible to typhus infection, and is cultivable.

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43619. ANDERSEN, HAROLD ERNEST, 1916- . Climate in Southeast Alaska in relation to tree growth. Juneau, June 1955. 11 p. 3 text maps, 3 tables. Mimeographed. (U. S. Forest Service. Alaska Forest Research Center. Station

paper, no. 3.) 11 refs.

Data on climatic factors vital to tree growth are assembled with view to increased interest in Iceland (where Sitka spruce is being grown from Alaskan seed) and in northern Europe. Data are summarized from Weather Bureau records on precipitation, mean temperature of growing season and coldest part of the year, number of frost-free days. Rainfall in Southeast Alaska is probably excessive

for optimum tree growth. Best sites are on well-drained areas. Low temperature during growing season may be limiting factor in growth. Copy seen: DWB.

43620. ANDERSEN, HAROLD ERNEST, 1916 - . The forest survey of Southeast Alaska. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub.* 1956, p. 107–108.)

The Alaska Forest Research Center is carrying out a timber survey of Tongasa National Forest designed to give a preliminary overall estimate of timber volume. Estimate of forest, commercial forest, and other land-class areas is obtained from aerial photographs taken in 1948 by the U. S. Navy. Methods are described. Field checks are made to determine reliability. Copy seen: DGS.

43621. ANDERSEN, HAROLD ERNEST, 1916 · Use of twin low-oblique aerial photographs for forest inventories in Southeast Alaska. (Photogrammetric engineering, Dec. 1956. v. 22, no. 5, p. 930–34, diagrs., illus.) 7 refs.

The method and use of oblique photography for forest inventory-resource use are described. Photographs were taken with two K-17, 12-inch focal-length cameras mounted in tandem in a split mount adjustable for crab and tilt. The two cameras were tilted right and left 18° from the vertical normal to line The method has proven of flight. economical, and errors are within acceptable minimums. In addition to land-use and timber classification in this area, the photographs are used for locating field volume plots on the ground and for selecting most feasible travel routes. Copy seen: DLC.

43622. ANDERSEN, HAROLD V. Buccella, a new genus of the rotalid Foraminifera. (Washington Academy of Sciences. Journal, May 28, 1952. v. 42, no. 5, p. 143-51, 13 illus.) 23 refs.

Contains descriptions of this new genus (range: Oligocene to Recent) and eight species, of which three are new. B. frigida, very common in samples from Hudson Bay and along Atlantic coast as far south as Maryland, is included.

Copy seen: DLC.

43623. ANDERSEN, HELGE. Fuglelivet på Arundel Ø, NØ. Grønland. (Dansk ornithologisk forening. Tidsskrift, May 1956. Årg. 50, hefte 2, p. 162, illus.) Text in Danish. *Title tr.*: Bird life on Arundel Island, northeast Greenland.

Simple list of five species of aquatic birds observed in Aug. 1955, on this small island (73°47′ N. 20°18′ W.) off Hold with Hope. *Copy seen:* DSI.

ANDERSEN, K. LANGE, see Erikson, H., and others. The critical temperature in naked man. 1956. No. 44791.

43624. ANDERSEN, MOGENS, and K. C. NIELSEN. Studies on the renal function under experimental hypothermy in rabbits. (Acta medica scandinavica, 1955. v. 151, fasc. 3, p. 191–99, illus., tables.) 22 refs.

Contains a study of the kidney function of rabbits made hypothermic by extracorporeal cooling of the blood. Urine 
output, filtration, concentration capacity 
and percentage reabsorption of urea were 
found to decrease with falling temperature. The probable causes of these 
changes are discussed.

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43625. ANDERSEN, SØREN, and R. S. LEONARD. Auroral zone absorption of radio waves transmitted via the ionosphere. College, Alaska, 1955. 14, 30 p. (Alaska. University. Geophysical Institute. Tasks A and B, quarterly progress report no. 5, Mar. 1, 1955–May 31, 1955).

An improved antenna system was designed for the transmitter stations of the Arctic Ionosphere Research Detachment. The new antennas were installed on the 4095- and 12,305-ke stations at Northway and on the 7940-kc station at Sheep Mountain. Equipment was built and tested for determining the fade rates of the echoes which are detected to the magnetic north of College. It is concluded that first echoes are caused by direct scatter from the aurora, and that second echoes which occur at ranges equal to or slightly greater than twice the first are caused by a forward scattering of the almost-horizontally-ionized signal by clouds which are located at or near the aurora.

Appended is Visual observations of the aurora in Alaska, 1953-1954, by C. T. Elvey, q. v. Copy seen: DBS.

43626. ANDERSEN, SØREN. An instance of possible ionospheric wind in the E region at College, Alaska. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 219–21, diagrs.) An ionospheric wind speed of 395 m./

sec. is computed from hook-shaped echoes observed on the ionospheric recorder at College, Alaska on June 30, 1952.

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ANDERSEN, VERA, see Christensen, P. E., and others. An epidemic of measles . . . 1951 . . . 1, 1952. No. 44357.

ANDERSEN, VERA, see also Christensen, P. E., and others. An epidemic of measles . . . 1951 . . . 2 . . . 1953. No. 44358.

ANDERSEN, VERA, see also Christensen, P. E., and others. An epidemic of measles. . . 1951 . . . 3 . . . 1953. No. 44359.

**43627.** ANDERSON, ANTON A. Railroad location in Alaska. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub.* 1956, p. 25–36)

Problems peculiar to locating railroads in Alaska and the arctic environment are generally overlooked by engineers with experience limited to temperate climates. The tundra muck which exists in nearly all areas accessible to railroads must be removed entirely or fills placed on the natural ground cover with a minimum of disturbance. Location must be chosen to minimize snow drifting and snow slides. Care must be taken to locate above the high water mark and the level of ice reached during heavy jams. A railroad location party in Alaska should comprise about 20 men. Surveying procedures and precautions are outlined. Copy seen: DGS.

ANDERSON, CALVIN E., see U. S. Air Force. Air Weather Service. Juneau Icefield Research Project. 1951. No. 43623.

43628. ANDERSON, CHARLES M. Psychiatrist gives medical analysis of first 600 cases seen by Alaska Department of Health mental health team. (Alaska's health, Oct. 1955. v. 12, p. 2, 4, table.)

Contains analysis according to kind of disturbance; areas of examination; conditions among children; seasonal and racial distribution of cases; needs, etc.

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43629. ANDERSON, JACK, and F. BLUMENTHAL. The Arctic: hot spot in the cold war. (Parade; Sunday picture magazine, Feb. 27, 1955. p. 6-9, illus. map.)

Military developments undertaken by Russia and the U.S. to fortify the Arctic are described. Soviet accomplishments include construction with ice concrete made of sand, gravel, crushed rock and water; ice rails made by freezing water in a single rut down the center of a road for special, tractor-drawn sleds; tunnels in permafrost for cold-storage; engineering studies for possible arctic railroads. Soviet guided missile launching sites near Franz Joseph Land and along the Siberian coastline, air bases in Finland, Siberia and Rudolph Island, as well as U. S. radio stations, radar-warning stations, air bases and ice islands are shown on a map. Construction, supply and survival problems are briefly dis-Soviet efforts to communize natives in Siberia are cited.

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43630. ANDERSON, JACOB PETER, 1874–1953. Flora of Alaska and adjacent parts of Canada. Ames, Printed by the Iowa State College Press, 1954. 9 pt. (paged individually), illus., map, reprinted from Iowa State College journal of science, v. 18–26, and reissued in one volume. A basic work, previously listed as No. 441, 20204 of Arctic Bibliography.

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43631. ANDERSON, LOIS C. The standard deviation as a measure of variability of monthly mean temperature in the Northern Hemisphere. Natick, Mass., July 1955. iv, 42 p., diagr., tables, maps incl. 1 fold. (U. S. Quartermaster Corps. Environmental Protection Division. Technical report EP-16.) 8 refs.

"Maps of the variability of mean monthly temperature in the Northern Hemisphere are presented, accompanied by a brief description of their construction. Examples of several applications are given. The theory on which these applications are based is that this method should yield an accurate estimate of expected temperatures within the limitations stated. Comparison of expected with actual values for one station indicates that the estimate is reasonably accurate. Some general conclusions that may be drawn from an examination of these maps are: (1) Departures from the long-period mean are larger in winter than in summer. (2) Departures from the mean are small in tropical regions. (3) Departures from the mean in high latitudes during winter are much larger in certain regions, such as the Yukon, than in others at the same latitude. (4) In regions where variation from year to year is high, military planners must evaluate the risk of deviation from the average in determining requirements imposed by these varying conditions."—QRDC summary and conclusions. Microcard available.

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43632. ANDERSON, LUDLOW G., and P. R. MOYER. Blasting in surface and drift operations in the far North. [Washington, D. C.] 1956. 3 p. (In: U. S. Office of Naval Operations. The dynamic North, v. 2, chap. 4.)

The use of explosives in frozen ground and permafrost is reviewed briefly. Improvements in explosives and refinements in their use have resulted in an increase in their application to mining purposes in the Arctic. The addition of nitro-substitution compounds to nitro-glycerin lowers its freezing point. The use of water for thawing the frozen overburden at one coal-strip mine is described.

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43633. ANDERSON, PAUL A. Low temperature synthetics. (Aero digest, Dec. 1942. v. 41, no. 6, p. 184, 279, illus.)

Discusses the requirements for low-temperature synthetics. A synthetic rubber flexible at -70° F. is being developed by using freeze-resistant Neoprene-type synthetic compounds which are designed to be as soft as is consistent with the mechanical usage to which the synthetic will be placed. Softer type stocks were selected because the hardening curve was gradual. Copy seen: DLC.

43634. ANDERSON, RUDOLPH MARTIN, 1876— Recent zoological explorations in the western Arctic. (Washington Academy of Sciences. Journal, June 4–19, 1919. v. 9, no. 11–12, p. 312–14, 356–57.)

Contains review of the author's zoological exploration along the coast from Point Barrow, Alaska, to Coronation Gulf, and regions inland, notably on both sides of Endicott Mts. divide. Difficulty of transportation, limited fauna in winter and limited scope for field work in summer are noted. A great diminution of some forms of bird life in the Arctic in recent years and reduction of game and fur animals, due principally to white man's influence, are stressed. These observations were made on the Stefans-

son-Anderson Expedition of the American Museum of Natural History 1908–1912. Copy seen: DLC.

43635. ANDERSSON, B., and others. Central control of heat loss mechanisms in the goat. (Acta physiologica scandinavica, 1956. v. 37, fasc. 2–3, p. 261–79, illus.) 10 refs. Other authors: R. Grant and S. Larsson.

The existence of a discrete "heat loss center" is demonstrated, its location and extent described, and the effects of its stimulation studied. Exposure to cold or lowering the body temperature by introduction of cold water into the stomach increased the voltage threshold for producing responses to stimulation of the center. Repeated stimulation of the center lowered body temperature especially in animals exposed to cold. Cold exposure increased the latencies and decreased the duration of "after effects." The effects of stimulating the caudo-ventral part of the center are also discussed. Copy seen: DNLM.

43636. ANDERSSON, GUNNAR. Om talltorkan i öfra Sverige våren 1903. (Stockholm, Statens skogsförsöksanstalt, Meddelanden, 1905. Häfte 2, p. 49–80, 7 illus., fold. map., table) Text in Swedish. Summary in German. *Title tr.*: On withering of pine in upper Sweden in the spring of 1903.

Dessication of shoots on young pine, especially evident in 1903 and believed to be due to climatic conditions, was investigated. Distribution and nature of effect are summarized. Geographic, local, and age differences were considered, also conditions surrounding the individual trees. Unreadiness for winter, cold conditions of ground that prevented proper root feeding, and other biological conditions are suggested as factors in the tree damage. Pine in northern Sweden is near limit of growth and small changes in climate have strong effects.

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43637. ANDERSSON, GUNNAR. Tornedalens församlingsbildningar. (Norrbottens läns hembygdsförening. Årsbok 1954, p. 81–96, table.) 9 refs. Text in Swedish. *Title tr.:* The formation of parishes in the Torne valley.

Historical sketch of this area in north Sweden, with data on early settlers, dates of the formation, and geographic extension of parishes, including a short section on the Lappish districts. Trade with the Lapps, dating from Viking times, included furs, game and fish. During the early Middle Ages, various merchants had monopolies (each trading with certain Lapps) in the area, a system sanctioned by the state in the 13th century with the merchants acting also as tax collectors. The merchants' power was reduced under Gustaf Vasa by appointment of special tax collectors for the Lapps and their privileges lost when coastal towns were founded c. 1620. Special priests for the Lapps were appointed from c. 1520.

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43638. ANDERSSON, JOHAN GUNNAR, 1874—. Hur vi erövrade jorden; de geografiska upptäckterna genom tidsåldrarna. Stockholm, Saxon & Lindström, 1953. 2 v.: 614, 608, liv p., illus., maps. Text in Swedish. Title tr.: How we conquered the earth; the geographic record through the ages.

Chronicle of discovery, exploration and colonization in the Americas, South Seas, Africa, Asia, etc. Includes (in v. 1, p. 9-190) voyages of the Vikings and Norsemen to Iceland, Greenland and Vinland; expeditions to the North Pole, across Greenland, attempts on the Northwest and Northeast Passage, etc.; also (p. 496-501) the Bering Sea area. Russian penetration and settlement of Siberia and the Russian Arctic is outlined in v. 2 (p. 298-335). Profusely illustrated throughout with uncommonly good photographs and maps.

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43639. ANDERSSON, LEIF. Vi paddlar in i en ny fjällvärld. (Till fjälls; Svenska fjällklubbens årsbok, 1954. årg. 26, Spring 1955. p. 20–25, illus.) Text in Swedish. *Title tr.:* We paddle into a new mountain world.

Contains a short description of canoeing in north Sweden with comments on various routes. Copy seen: SPRI.

43640. ANDERSSON, SVEN. Finländsk valfångst på 1850-talet. (Nordenskiöldsamfundets tidskrift, 1954. Årg. 14, no. 14, p. 3–28, illus, ports.) Text in Swedish. *Title tr.:* Finnish whaling in the eighteen-fifties.

Contains a short history of the Russo-Finnish whaling company, started in 1851 with Abo as its base. Its ships, the Suomi, Turku, Ajan, the Grefve Berg, and Amur and their operations (mainly in the Sea of Okhotsk) 1852–1862 are described. The company was dissolved, due to competition of American whalers.

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43641. ANDJUS, RADOSLAV K. Effect of hypothermia on the kidney. (*In*: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, *pub*. 1956. p. 214–20, illus.) 2 refs.

Report and discussion on electrolyte excretion, and reabsorption capacity of renal tubules, as affected by hypothermia. It is concluded that cold has a direct inhibitory effect on the reabsorption activity of the tubules. In the range of 18° to 23° C. sodium reabsorption was completely inhibited, while glomerular filtration and urinary flow were still present.

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he g, 43642. ANDJUS, RADOSLAV K., and others. Effects of hypothermia on behaviour. (Nature, Nov. 1955. v. 176, no. 4491, p. 1015–16.) 10 refs. Other authors: F. Knöpfelmacher, R. W. Russell and A. U. Smith.

Contains report on experiments with rats made hypothermic to 13.4°–18.5° C., and to the freezing point. The latter group showed a significant impairment in problem-solving performance. In neither group was memory notably affected. No effect on other aspects of behavior tested, was observed.

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43643. ANDJUS, RADOSLAV K., and A. U. SMITH. Reanimation of adult rats from body temperatures between 0° and +2° C. (Journal of physiology, June 1955. v. 128, no. 3, p. 446-72, illus., tables.) 49 refs.

Contains description of a modification of Andjus' original method, including rewarming with a beam of light focused at the precordium and resulting in revival of 75 percent of animals. The deeply chilled animals were without circulation or respiration for 40 min. or longer; 58 of these rats were studied from 66 to 630 days; normal behavior and growth usually returned four to seven days after revival; males and females tested for fertility had progeny three months after reanimation. Colonic and thoracic temperatures, arterial blood pressure, O<sub>2</sub> consumption and blood sugar concentra-

tion were recorded during cooling and rewarming. Copy seen: DLC.

43644. ANDJUS, RADOSLAV K., and J. E. LOVELOCK. Reanimation of rats from body temperatures between 0° and 1° C. by microwave diathermy. (Journal of physiology, June 1955. v. 128, no. 3, p. 541–46, illus., table.) 5 refs.

Using microwave diathermy for rewarming, the authors succeeded to revive 80-100 percent of animals cooled to a near-zero temperature. Local burns caused by earlier methods were largely responsible for the secondary delayed deaths.

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43645. ANDJUS RADOSLAV K., and others. Resuscitation and recovery of hypothermic, supercooled and frozen mammals. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia... symposium Oct. 1955, pub. 1956. p. 125-45, illus. table.) 17 refs. Other authors: J. E. Lovelock and A. U. Smith.

Summary of sound film made at the National Institute for Medical Research, London, under the supervision of the authors. This is followed by addendum of A. U. Smith on: Formation of ice in tissues; and an extensive one (p. 129-42) of R. K. Adjus on: Closed container cooling, and observations on the physiology of cooling and resuscitation. The physiology of hypothermic states, the range of active defense, of cold-narcosis and suspended animation are dealt with. After-effects including those of repeated cooling are also discussed.

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43646. ANDJUS, RADOSLAV K. Suspended animation in cooled, supercooled and frozen rats. (Journal of physiology, June 1955. v. 128, no. 3, p. 547-56, illus., tables.) 13 refs.

Contains a study of the limits of suspended animation, the effects of cooling to below zero and of repeated cooling to zero. Ten out of ten animals survived suspended animation of 60–70 min., but only one out of ten survived when this period was extended to 100–110 min. Rats were cooled to 0° C., up to ten times; an adaptation of recovery and growth time in these animals was observed and recorded. Animals supercooled to about 3° C. colonic temperature, revived and recovered completely.

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ANDJUS, RADOSLAV K., see also Smith, A. U. and R. K. Andjus. Resuscitation . . . hypothermic, supercooled and frozen mammals. 1956. No. 48078.

43647. ANDREEV. Laboratornye raboty po gruntam. (Leningrad. Arkticheskii . . . institut. Bülleten', 1935. v. 5, no. 7, p. 193.) Text in Russian. Title tr.: Laboratory work on the sea bottom.

Note on analysis of bottom samples collected by the Sibirîakov, Rusanov, Sedov and Pakhtusov expeditions in 1932–34; the investigations were carried out by a Laboratory of Soil Granulometry.

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43648. ANDREEV, VLADIMIR NI-KOLAEVICH, 1889— Deshifrirovanie po aėrofotosnimkam razlichnykh tipov tundr i ikh aėrovizual'nafa kharakteristika po moroznoľ treshchinovatosti. (Geograficheskoe obshchestvo SSSR. Geograficheskiľ sbornik, 1955, no. 7, Voprosy aėrofotos''emki, p. 103–120, illus., diagrs., table.) 13 refs. Text in Russian. Title tr.: Interpretation of aerial photographs of various tundra types and their characteristics due to frost cracking, as seen from the air.

Three main types of tundra microrelief are distinguished: low arctic polygonal marshes, peat tundra marshes, and rocky ground tundras. Each type is classified into various morphological subtypes. Their plant associations and effects of frost cracking are outlined, and interpretation of their aerial photographs is discussed. In some tundra regions, 50-80 percent of the surface is affected by frost cracking. Air photographs (13) taken by the author at 300-600 m. in various tundra regions of U. S. S. R. are reproduced to show patterns of main types and subtypes of tundra terrain.

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43649. ANDREEV, VLADIMIR NIKO-LAEVICH, 1889 - Raboty nauchnoissledovatel'skogo instituta olenevodstva na Kralnem Severe v 1934 godu. (Leningrad. Arkticheskii . . . institut. Būlleten', 1934. v. 4, no. 8–9, p. 309–311, 339–41.) Text in Russian and in English. Title tr.: The work of the Scientific Research Institute for Reindeer Husbandry in the far North in 1934.

Survey of the Institute's activities in Karelia, Kola Peninsula, Arkhangel'sk Province (Nar'yan-Mar), the Ob'-Irtysh

basin, Taymyr Peninsula, Yakutia, Chukotka and Koryak National District. Personnel and publication of research are noted. *Copy seen:* DLC.

43650. ANDREEV, VLADIMIR NI-KOLAEVICH, 1889 - Rastitel'nyI pokrov vostochnoevropelskof tundry i meropriâtiâ po ego khozíastvennomu ispol'zovaniû i preobrazovaniû. (Akademiâ nauk SSSR. Vestnik, June 1955. v. 25, no. 6, p. 112.) Text in Russian. Title tr.: Plant cover of the east European tundra and measures for its utilization and rehabilitation.

Notes his doctoral thesis presented and defended in Botanical Institute of the Academy of Sciences; offers conclusion that in the last 4–5 centuries, due to amelioration of climate, the Bol'shezemel'skaya Tundra tree line has advanced 50–75 km. northward.

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43651. ANDREEV, VLADIMIR NIK-OLAEVICH, 1889 . Zaselenie tundry lesom v sovremennuû ėpokhu. (Rastitel'nost' Krainego Severa SSSR i ee osvoenie, 1956. vyp. 1, p. 27–45, illus., map.) 66 refs. Text in Russian. *Title* tr.: Forest penetration of the tundra in the present epoch.

The northern tree line has been considered in southward retreat (by G. I. Tanfil'ev, B. N. Gorodkov, A. I. Tolma-chev, IU. D. TSinzerling, and others), leaving in the tundra only derelict forest remains in the form of small thin groups of trees. The view has been advanced recently (by V. N. Sukachev, A. A. Grigor'ev, L. N. Tûlina, and others) that, on the contrary, due to a general amelioration of climate, the forest is advancing northward, and the small groups of trees in the tundras are pioneers preparing soil for the expanding forest. The latter theory is supported by results of the author's observations in Bol'shezemel'skaya and Malozemel'skaya Tundras, in the Cheshskaya Guba region, etc. Three stages of forest advance are distinguished and shown in photographs. The present and former tree line in European U. S. S. R. (Arkhangel'sk Province) is indicated (map); extensive literature (66 items) on the subject is cited. Copy seen: DLC.

43652. ANDREEVA, M. A. Rasselenie karpovykh ryb na Kamchatke. (Rybnoe khozfalstvo, Oct. 1955. god 31, no. 10, p. 32–34, illus.) Text in Russian. *Title*  tr.: Transplantation of carp-like fishes on Kamehatka.

Contains account of activities in transplanting Prussian carp introduced from the vicinity of Vladivostok. Data are included on water bodies stocked; rate of growth; means of transportation for stocking purposes; economic value, etc.

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43653. ANDREEVA, O. N., and O. I. NIKIFOROVA. Klass Brachiopoda - brakhiopody. (In: Leningrad. Vsesofiznyl geologicheskii institut. Polevol atlas ordovikskol i silurilskol fauny Sibirskol platformy, 1955. p. 61–81, illus.) Text in Russian. Title tr.: Class Brachiopoda.

Contains a general description of these very common fossils, their distribution, shells, size and geological significance. Twenty-eight forms are described (13 new) from the plateaux and North America.

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ANDREW, D. G., see Pennie, I. D., and D. G. Andrew. Bird notes . . . 1956. No. 47304.

43654. ANDREWS, ALBERT LEROY, 1878- . The North American Atlantic species of *Sphagnum*. (Annales bryologici, Sept. 1938. v. 11, p. 15–20.)

Contains a discussion of 20 species and fairly distinct forms ("not mere growthforms") of Sphagnum, which are especially characteristic of eastern Atlantic coaststates. Among them are S. papillosum and S. tenellum, both occurring in Alaska, and S. pylaesii from Labrador.

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43655. ANDREWS, C. W., and E. LEAR. The biology of arctic char, Salvelinus alpinus L., in northern Labrador. (Canada. Fisheries Research Board. Journal, 1956. v. 13, no. 6, p. 843-60, illus., tables, map.) 2 refs.

A comprehensive treatment of the problem, based on commercial catches of this economically important fish. Consecutive sections deal with its fishery and economic value; age composition of catches; weight and length frequencies and relationship; vertebral and fin ray counts; flesh color variations; food; parasites.

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43656. ANDREWS, RICHARD A. Dairy farming in the Matanuska valley 1952. College, Alaska, Oct. 1953. 22 l., tables. (Alaska. Agricultural Experi-

ment Station. Mimeograph circular 5.)

Contains information and data on size of herd, land use, crop land per animal unit, hay and silage production; buildings and equipment; expenses and income; minor enterprises; factors affecting income (investment, cropland, livestock, etc.) cost of producing milk.

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43657. ANDREWS, RICHARD A., and H. A. JOHNSON. Farming in Alaska. Palmer, Alaska, 1956. 32 p. illus., tables, map. (In: Alaska. Agricultural Experiment Station. Bulletin 20.)

An extensive review dealing with the six major agricultural areas, products and production income, etc., viz the Tanana valley, Matanuska valley, Anchorage area, Kenai Peninsula, Kodiak and the Aleutians and Southeast Alaska. This regional review is followed by an account of types of farming, including dairy, potato, poultry, vegetable, grain and feed farming.

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43658. ANDREWS, RICHARD A. Farming in the Matanuska valley 1954. College, Alaska, June 1955. 15 l., tables. (Alaska. Agricultural Experiment Station. Mimeograph circular 9.) 12 refs.

Report on potato farming, including expenses and income; and dairy farming (size of herd and cropland, income and expenses, farm comparisons, cost of milk production). An appendix offers data on milk production of cows and farms, average crop yields per acre, etc.

Copy seen: DA.

43659. ANDREWS, RICHARD A. Farms of railbelt Alaska 1953. College, Alaska, Dec. 1954. 28 l., tables. (Alaska. Agricultural Experiment Station. Mimeograph circular 7.) 20 refs.

Reports on farming in the Matanuska valley; its farmers and farms; crops and yields; equipment and buildings; dairy, potato and vegetable, poultry, miscellaneous farms, etc. Similar information is given for the Tanana valley, and Kenai Peninsula.

\*\*Copy seen: DA.\*\*

43660. ANDREWS, RICHARD A. Matanuska valley dairy farms. College, Alaska, Dec. 1954. 20 l., tables. (Alaska. Agricultural Experiment Station. Mimeograph circular 8.) 18 refs.

The economic condition of these farms in 1953 is described; size of herd and land use; hay and silage production; expenses and income; factors affecting the latter, etc. **Copy seen:** DA.

43661. ANDREWS, RICHARD A. Potato farms in Alaska 1952. College, Alaska, Oct. 1953. 22 l., tables. (Alaska. Agricultural Experiment Station. Mimeograph circular 6.) 23 refs.

Contains account of land use, income and expenses, income classes, equipment and buildings, production, etc. of potato farms in the Matanuska valley, Tanana

valley and Kenai Peninsula.

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43662. ANDRIEVSKAÑ, L. D., and B. M. MEDNIKOV. Glubokovodnye organizmy v pitanii lososef roda Oncorhynchus. (Akademiña nauk SSSR. Doklady, July 1956. t. 109, no. 2, p. 387-88.) 8 refs. Text in Russian. Title tr.: Deep-sea organisms in the feeding of salmon genus Oncorhynchus.

Lists two fish (Lampanyctus sp. and Coryphaenoides sp.) and five crustacean (decapod and amphipod) species, of which remains were found in the stomach of red keta and gorbusha during the salmon fisheries investigation in western Bering Sea, June–July 1955.

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43663. ANDRITASHEV, ANATOLIT PAVLOVICH. A contribution to the knowledge of the fishes from the Bering and Chukchi Seas; translated by Lisa Lanz with Norman J. Wilimovsky. Washington, D. C., May 1955. 81 p. illus., tables (U. S. Fish and Wildlife Service. Special scientific report; fisheries, no.

145.) Approx. 75 refs.

Translation of K poznania ikhtiofauny Beringova i Chukotskogo moreł. (Leningrad. Gosudarstvennyl gidrologicheskil institut. Issledovania morel SSSR, 1937. vyp. 25, p. 292-355, 12 tables, 27 illus.) Approx. 75 refs. Summary in English, p. 351-55. Copy in DLC. Based on explorations of the trawler Dal'nevostochnik in 1932 and Krasnoarmeets in 1933, the account deals with 108 species: 12 of them are new species or subspecies, and one a new genus. Information includes morphology, earlier accounts and synonyms; frequency and geographic distribution; vertical distribution; economic value, etc. Copy seen: DI.

43664. ANDRIĀSHEV, ANATOLIĪ PAVLOVICH. Novye i redkie vidy ryb semeīstva bel'drūgovykh (Pisces,

Zoarcidae) s fûgo-vostochnogo poberezh'fâ Kamchatki. (Akademifâ nauk SSSR. Zoologicheskil institut. Trudy, 1955. t. 21, p. 393–400, illus.) 6 refs. Text in Russian. *Title tr.*: New and rare species of fishes (Pisces, Zoarcidae) from the southeastern coast of Kamchatka Peninsula.

Contains descriptions of Krusensterniella pavlovskii n. sp., Lycodes brunneofasciatus, and L. albolineatus n. sp., obtained in 1950-53 by the research ship Vitūz'.

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43665. ANDRIĀSHEV, ANATOLIĪ PAVLOVICH. O nakhozhdenii na glubine bolee 7 km novol ryby iz sem. morskikh slizneľ: Pisces, Liparidae. (Akademifā nauk SSSR. Institut okeanologii. Trudy, 1955, t. 12, Issledovanifā Kurilo-Kamchatskoľ vpadiny, p. 340–44) 6 refs. Text in Russian. *Title tr.*: On a new fish of the family Liparidae, from a depth of over 7 km.

Contains a detailed description of Careproctus (Pseudoliparis) amblystomopsis Andriashev, sp. nova, a species related to the gobies. Stomach contents and relations to shallow-water forms are also discussed.

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43666. ANDRITASHEV. ANATOLIĬ PAVLOVICH. Obzor ugrevidnykh likodov, Gill Lycenchelys (Pisces, Zoarcidae) i blizkie formy, morel SSSR i sopredel'nykh vod. (Akademifa nauk SSSR. Zoologicheskil institut. Trudy, 1955. v. 18, p. 349-84, illus.) 38 refs. Text in Russian. Title tr.: A review of the species of Lycenchelys Gill (Pisces, Zoarcidae) and related forms of the Russian seas and adjoining waters.

Contains keys to the genera of the group, and to species of the genus Lycenchelys followed by descriptions of 15, six of them new. Several (seven at least) are native to Bering and Okhotsk Seas and five other northern forms are recorded in Greenland Sea, Barents Sea and Svalbard waters.

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43667. ANDRONNIKOV, MIKHAIL. Al norte del Círculo Polar. (U. S. S. R. Posol'stvo, *Mexico*, Boletín de información, June 1955, año 12, no. 24, p. 9–10, illus.) Text in Spanish. *Title tr.:* North of the Arctic Circle.

Brief popular notes on Kola Peninsula: its size, history, mineral resources, reindeer, schools, libraries, fisheries, etc.; Murmansk and post-war reconstruction. Roses (Rosa ambluotis) grown in Alpine Botanical Garden at 69° N. are men-Copy seen: DLC. tioned.

43668. ANDRONNIKOV, MIKHAIL, and others. L'extrême-nord soviétique, des terres longtemps inconnues. (Études soviétiques, Aug. 1955. no. 89, p. 42-64, illus., text maps.) Text in French. Title tr.: The Soviet far North, lands long unknown.

Contains brief introduction (p. 43-44) and descriptions of Kola Peninsula and the cities of Kirovsk and Murmansk, by M. Andronnikov (p. 45-48); the tundra and taiga, their peoples and changes in recent years, by V. Soloukhin (p. 49-52); Yakutia, by M. Smirnov (p. 53-58); hunters of Yakutia, by I. Villakhov (p. 58-60); Kamchatka Peninsula, by V. Shchegolev (p. 61-63); Chukotsk Peninsula, by E. Kuznetsova (p. 63-64). Improvements during the Communist regime are stressed in each region.

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ANDRONNIKOV, MIKHAIL. Za polfarnym krugom. (Fizkul'tura i sport, Aug. 1955, no. 8, p. 8-9, illus.) Text in Russian. Title tr.: Above the Arctic Circle.

Sports among miners in Kirovsk (skiing, boxing, volley-ball), the athlete Alexander Mozol'kin, work scenes in the apatite mine in Kukisvumchorr.

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ANDRULIONIS, E. P. Shire 43670. primensat' patrul'nusu snegoochistku na mestnykh dorogakh. (Avtomobil'nye dorogi, Mar. 1956. god 19, no. 3 (161), p. 12.) Text in Russian. Title tr.: Regular snow-removal on local roads must be expanded.

Formation of snow rolls on the road sides from heavy snow removers increases accumulation of drifts. Snow patrols, equipped with light, fast-moving (15 m. p. h.) and maneuverable snow plows are able to keep the road clear of rolls and drifts. Copy seen: DLC.

43671. ANDRUSHENKO, P. F. O fatsii manganitovykh rud v Polunochnom mestorozhdenii na Severnom (Akademiîa nauk SSSR. Izvestiîa, Seriîa geologicheskaîa, Mar.-Apr. 1950. no. 2, p. 139-45, graph, illus.) Text in Russian. Title tr.: Phases of manganite ore deposits in the Polunochnoye of the Northern Ural.

Manganese deposits in the Polunochnoye (60°50' N. 60°30' E.) were found in 1920, but detailed mineralogical investigations were conducted only recently. Rock specimens, collected from different layers of the deposits, were studied with contemporary methods, including X-rays and spectral analysis. A considerable mass of ore was indicated. Results of the study are given in a table and microphotographs. Two phases of the ores are identified: primary oxide and carbonate ores. The first phase is subdivided by composition and phosphorus content into pyrolusite (manganese dioxide) and manganite. Their characteristics are described in detail.

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ANGELAKOS. EVANGELOS. 43672. 1929- . The control of hand and finger blood flow. (Boston medical quarterly, Dec. 1954. v. 5, no. 4, p. 116-22, illus.) 26 refs.

Contains account of plethysmographic and calorimetric measurements which indicate that blood flow through the hand and finger is part of the temperatureregulating mechanism of the body, while the blood flow of other regions (arms, legs) is closely related to the metabolic requirements of the tissues. The practical value of this point with regard to clothing is discussed.

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43673. ANGELI, G., and G. TEDESCHI. Sui rapporti tra eparina e istamina. (Archivio italiano di scienze farmacologiche, 1954. ser. 3, v. 4, p. 364-68, illus.) 15 refs. Text in Italian. Summary in English, French and German. Title tr.: On relations between heparin and histamine.

Contains report of an investigation on the effect of heparin on histamineproduced hypothermia in guinea pigs. It was found that heparin accentuates this kind of hypothermia.

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43674. ANGIER, BRADFORD. Food from the flora. (Beaver, Autumn 1956. Outfit 287, p. 24-27, illus.)

Describes various Canadian plants, shrubs, and trees, with edible parts, many growing in northern forests; also the reindeer moss, tripe de roch (rock tripe), lichens of the far North. Preparation of some plants is described.

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43675. ANGIER, BRADFORD. Living off the country; how to stay alive in the woods. Illustrated by Vena Angier. Harrisburg, Pa., Stackpole Co., 1956.

241 p. illus.

A comprehensive guide in popular style to means and ways of survival in emergencies when remote from human habitation. In four parts: sustenance, warmth, orientation, safety; all with sections applicable to, or taken directly from arctic conditions, but of particular value is the second. Ways of making fire, of conserving energy, building shelters, including snow houses, lean-to's, etc., are described; clothing, cover, use of fur, etc., is explained. Numerous simple but graphic illustrations are included.

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**43676. ANGLIN, A. B.** Field experience with 5W motor oils. (Oil and gas journal, Nov. 10, 1949. v. 48, no. 27, p. 261–67,

tables.)

Tests showed that 5W oil was satisfactory down to  $-40^{\circ}$  F. The light-viscosity base stock required considerable inhibiting to hold bearing corrosion within acceptable limits. Excellent sludge and varnish-cleanliness ratings were secured. Field tests indicated that satisfactory starts were obtained below  $-40^{\circ}$  F. after standing overnight. Viscosity stability was satisfactory, and warmup time was reduced with the oil.

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ANGLIN, M. C., see Ballantyne, R. M., and M. C. Anglin. The effect of temperature on . . . ration pack RPX 1B. 1955. No. 43854.

ANGLO - NORWEGIAN - AMERICAN FROZEN GROUND RESEARCH GROUP, see Williams, P. J., and others. Preliminary report . . . solifluction and patterned ground . . . Norway. 1956. No. 48963.

43677. ANISIMOV, M. E. Ob opisanii atmosfernykh favlenii. (Meteorologifa i gidrologifa, Apr. 1953. no. 5, p. 45–47.) Text in Russian. *Title tr.:* Description

of atmospheric phenomena.

Contains general instruction on characterizing deposits, observed in hydrometers exposed to different weather conditions viz: dew, hoarfrost, sleet, snow "leaves," glaze, icicles, etc. Instructions are given for the use of liquid, snow and ice hydrometers and also for defining character of sky and unusual phenomena such as:

silver clouds, pseudo-sun, St. Elmo's fire, etc. Copy seen: DLC.

43678. ANISIMOV, V. B. I. Erokhin; nekrolog. (Leningrad. Arkticheskiĭ... institut. Bûlleten', 1934. v. 4, no. 4, p. 183-85, port.) Text in Russian. Title tr.: B. I. Erokhin; obituary.

Biographical sketch of Captain Boris Ivanovich Erokhin, 1891-1933, commander of ice-breakers Chelûskin, Sedov, Rusanov. Copy seen: DLC.

43679. ANISIMOVA, N. P. O khimicheskom sostave podzemnykh vod nekotorykh glubokikh gorizontov na territorii fsentral'no! ÎAkutii. (In: Akademiâ nauk SSSR. Institut merzlotovedeniâ. Materialy k osnovam ucheniâ o merzlykh zonakh zemno! kory, 1956. vyp. 3, p. 123-25, table.) Text in Russian. Title tr.: Chemical composition of deep underground water in central Yakutia.

Hydrogeological and cryological conditions in the Vilyuysk and Olekma regions of the Yakut A. S. S. R. are analyzed at different underground levels, the Vilyuysk area studied in drill holes to 3,000 m. depth and the Olekma to 1657.5 m. Data on mineralization, ion content and other characteristics are assembled in table (p. 124). The permafrost caused low mineralization of the water, which even at depths of 1,845-2,015 m. remained below 0.45-0.65 gm./l.

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43680. ANKEL, W. E. Pottwalfang bei den Azoren. (Orion, Aug. 1955. Jahrg. 10, Heft 15–16, p. 604–613, illus.) Text in German. *Title tr.*: Sperm whale catch near the Azores.

An account with excellent photographs, of the still primitive whaling along these islands; underwater pictures (by Dr. and Mrs. Hass) of various phases of this activity, anatomical peculiarities of the sperm whale with some of their underwater aspects; spermaceti, its uses and value; sperm whales and giant octopuses; other objects of this whale's diet.

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43681. ANNANDALE, NELSON, 1876–1924. Fresh-water sponges in the collection of the United States National Museum, part II. Specimens from North and South America. (U. S. National Museum. Proceedings, Dec. 22, 1909. v. 37, no. 1712, p. 401–406, 3 illus.)

Contains a systematic annotated list of six species, among them Spongilla lacustris,

a typical form labelled "McDonald Lake Alaska," Sept. 11, 1905. Part I of this paper does not include arctic material.

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43682. ANRICK, CARL JULIUS, 1895—, and O. THANING. Adelig öfning och annat; anteckningar om stormakstidens svenska geografi. (Svenska turistföreningen, Stockholm. Årsskrift, 1950, p. 253–66, 6 text maps) Text in Swedish. Title tr.: Noble practice and otherwise; notes on Swedish geography during its period as a power nation.

Geography books of the 16th century afford a means of surveying the country as well as the status of geography and its teaching at the time. Lapland was described as a wild and uninhabited land. No place names are found on the map inland from the Bothnian coast.

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43683. ANRICK, CARL JULIUS, 1895 - , Editor. En höstkrönika. (Svenska turistföreningen, Stockholm. Årsskrift, 1954, p. 28–43, 6 illus., 9 text maps.) Text in Swedish. Title tr.: An autumn chronicle.

Monthly account of the changing season, from August in Lapland and to January in Skåne where real winter is short. Maps show distribution of average dates for departure of birds, the beginning of harvest of several crops, ripening of lingonberries, seeding of rye, falling of birch leaves, end of the vegetation period, first snowfall. Incidents taken from various sections of the country provide an overall view of the change from summer to winter.

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43684. ANRICK, CARL JULIUS, 1895- , Editor. En sommarkrönika. (Svenska turistföreningen, Stockholm. Årsskrift, 1953, p. 25–40, 7 illus.) Text in Swedish. Title tr.: A summer chronicle.

Summer, when the daily average temperature is above 10° C., is considered as foresummer, high summer, and late summer. In the northern Swedish upland, summer temperature obtains approx. July 12-Aug. 5, with only a few days above 15° C. Time variations in vegetative growth from north to south are discussed.

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43685. ANRICK, CARL JULIUS, 1895– , Editor. Vårens krönika. (Svenska turistföreningen, Stockholm. Årsskrift, 1952, p. 31-44, 6 illus.) Text in Swedish. Title tr.: Spring chronicle.

First signs of spring appear in late February in southern Sweden, and late April in Lapland. Early signs in Lapland are the longer daylight and crust formation on the snow; about May 1 average temperature rises above freezing, ground becomes bare about mid-May, and in late May the birches are green in central northern locations. Ice lies on Torneträsk until mid-June.

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43686. ANRICK, CARL JULIUS, 1895-, Editor. En vinterkrönika. (Svenska turistföreningen, Stockholm. Årsskrift, 1955, p. 19–32, 5 illus., diagr., 6 maps.) Text in Swedish. Title tr.: A winter chronicle.

Winter, the time when average daily temperature is below the freezing point, varies greatly in Sweden. It is considered in three parts: to the equinox when days continually grow shorter, the period when daylight increases but cold becomes more intense, generally to late February, and the time when light and warmth gradually increase. Winter conditions in various parts of Sweden are chronicled with monthly map Oct.-May, the actual duration of winter in the far North. Diagram shows relationships between the calendar months, temperature, snow cover, ice duration on lakes, and winter period between vegetation seasons for Lapland, Uppland, and Skåne.

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43687. ANSON, ALEKSANDR ANTO-NOVICH, 1890—, and others, Editors. Ékonomicheskafa geografifa Sibiri; posobie dlfa uchitele' shkol I-1 i II-1 stupene', etc. Novosibirsk, Sibirskoe kraevoe izd-vo, 1928. 303, ix, iv p. illus., diagrs., tables, fold. maps. Text in Russian. Other editors: M. M. Basov and G. I. Cheremnykh. Title tr.: Economic geography of Siberia; manual for teachers of primary and secondary schools, etc.

Sections on natural conditions of Siberia (p. 9-84); possibilities of development (p. 85-156); transportation and communication (p. 157-76); administrative divisions (p. 177-94); agriculture and trades (p. 195-258); industry and commerce (p. 259-303).

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43688. ANSTEY, ROBERT L. Handbook of Thule, Greenland, environment. Natick, Mass., Aug. 1956. iv, 42 p. illus., graphs, tables, text maps. (U. S.

Army. Quartermaster Research and Development Center. Environmental Protection Research Division. Tech-

nical report EP-34.) 19 refs.

Environmental conditions (climate, terrain, vegetation, insects) of Greenland, especially in the area of Thule Air Force Base, are described. The climatic material is presented in graphic or tabular form. Climatically the area near Thule has few advantages over either Fort Greely (Big Delta, Alaska) or Fort Churchill for testing cold weather clothing and equipment. It has an arctic coastal environment and provides a testing facility at a higher latitude than regular Dept. of the Army sites.

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43689. ANTEVS, ERNST, 1888- . Varve and radiocarbon chronologies appraised by pollen data. (Journal of geology, Sept. 1955. v. 63, no. 5, p.

495-99, graph.) 24 refs.

"Natural correlation with climatic ages of Canadian postglacial forest types . . . confirms the well-suggested view that the ice border oscillations at Cochrane [northeastern Ontario, approx. 49° N. 81°30' W.] antedated the Altithermal which culminated ca. 6,000 years ago. The postglacial crustal rise of the James Bay country required 8,000-10,000 years according to Gutenberg [cf. Arctic Bibliography, No. 6396]. The Cochrane must be the correlative of the European Salpausselkä stage and be some 10,000-11,000 years old. Since the ice retreat from Milwaukee to Cochrane comprised at least 7,000 years, the radiocarbon age of the Two Creeks [Wisconsin] forest bed of 11,400 years must be much too low."—Author's abstract.

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43690. ANTHONY, L. MARK, and N. R. MUKHERJEE. Hydrogen ion and soluble heavy-metal distribution of soil horizons over the Cleary Hill gold veins, Alaska. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1805.)

Abstract of paper presented at the Seventh Alaskan Science Conference (AAAS), Juneau, Sept. 27–30, 1956. Soil samples (660) from principal soil horizons at mine near Fairbanks were analyzed for pH and soluble heavy metals. Distribution of hydrogen ions is related to humic acid content of the soil horizon. Minor variations occur in each horizon. In the upper soil horizons

(Aoo, Ao), a higher content of soluble heavy metals than in A, B, and C horizons; and reliable correlation was found between soluble heavy metal content and the gold vein. **Copy seen:** DGS.

43691. ANTIPINA, L. V. Pochvy kolkhoza im. Molotova i printsipy ikh ispol'zovaniâ. (Akademiâ nauk SSSR. Ākutskiī filial, Yakutsk. Institut biologii. Trudy, 1955. vyp. 1, p. 28–44, illus., tables, map.) Ref. Text in Russian Title tr.: Soils of the Molotov Kolkhoz and the fundamentals of their utilization.

A study of the mechanical, agrochemical and gross composition of the main soils in the area of the kolkhoz. Four large soil-groups are represented in this farm: old forest, chernozem-meadow, turf-meadow (alluvial) and peat-bog soils. The first three, being of agricultural value, are discussed in detail, including origin, distribution, plant cover, etc.

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43692. ANTONOV, A. S., and others. Tank. Moskva, Voennoe izd-vo Ministerstva oborony, 1954. 607 p. graphs, diagrs. Text in Russian. Other authors: B. A. Artamonov, B. M. Korobkov, and E. I. Magidovich. Title tr.: The tank.

Includes a section on ice crossings (p. 563-66). "The mechanical properties of an ice cover and procedures for the construction of tank crossings are described. Formulas are given for calculating the bearing capacity of an ice cover and the thickness required for crossings by tanks and wheeled vehicles, as well as for determining the speed of ice-cover Wide water bodies can be formation. safely crossed because the floating ice cover acts as a beam on an elastic foundation. Air spaces under the ice cover which appear during winter when the water level drops make an ice crossing unsafe. An ice cover can be reinforced to required thickness by adding extra layers up to 70 percent of the initial thickness at air temperatures of  $-10^{\circ}$  C. or below. The 70 percent limit is determined by the thermal conductivity of the ice, and any additional ice above will cause melting below."-SIPRE.

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43693. ANTONOV, ALEKSANDR EFIMOVICH. F. P. Litke; pod red. A. D. Dobrovol'skogo. Moskva, Gos. izd-vo geogr. lit-ry, 1955. 40 p. illus., port., maps. 3 refs. Text in Russian.

Title tr.: F. P. Litke; editor: A. D. Dobrovol'skil.

Popular biography of the Russian sailor Fedor Petrovich Litke, 1797–1882, with emphasis on his four trips to Novaya Zemlya in 1821–1824 (p. 11–18) and his round-the-world voyage on the Sentavin to Kamchatka and Alaska in 1826–1829 (p. 20–35). Litke's activities as vice-president of the Geographical Society and as president of the Academy of Sciences (1864–1881) are noted.

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43694. ANTONOV, L. B. Mestorozhdenie kondrikita Loparsko doliny. (*In:* Khibinskie apatity, 1933. t. 6, p. 111–12.) Text in Russian. *Title tr.:* Formation of kondrikite in the Loparskiy valley.

Formation of kondrikite is outlined in view of the search of new deposits of lovehorrite. Cracks in primary minerals, filled with rare earth compounds and saturated with natrolitic minerals, were transformed into a specific body, called "kondrikite." Often associated with it is a new mineral "carbocer." Genetically the kondrikite, containing 8 percent rare earth, is connected with changes of rinkolite, containing 4-8 percent chloric Geological and geochemical research parties are alerted to investigation of the natrolitic veins, containing other minerals and rare earths, particularly in the regions of Kukisvumchorr and Kuėl'por. Copy seen: DGS.

43695. ANTONOV, L. B. Organiza siña geologo-razvedochnykh i nauchno-issledovateľ skikh rabot Novpromapatita: Upravlenie po osvoeniú novykh poleznykh iskopaemykh pri treste Apatit (In: Khibinskie apatity, 1933. t. 6, p. 263–64.) Text in Russian. Title tr.: Organization of the geological prospecting and scientific research work of "Novpromapatit:" Administration for utilization of new mineral resources of the Apatite Trust.

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Contains general description of constituents of this organization and its activities in coordination of the systematic scientific and exploratory work of different groups on different assignments. In a major expansion of scientific research, Novpromapatit sets up its own petrographic, ore dressing and other laboratories. Laboratories were set up for petrographic and processing studies.

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43696. ANTONOV, L. B. Rezul'taty razvedki titanita (sfena) Ükspora. (*In:* Khibinskie apatity, 1933. t. 6, p. 158–60.) Text in Russian. *Title tr.:* Survey data on Yukspor titanite (sphene).

Distribution of sphenic ores is outlined. Ore deposits with 12 percent titanite oxide are estimated as approx. 11 million tons. On the western slope of the Yukspor alone the reserves are estimated at about 3½ million tons. Enriched concentrate contains 38-40 percent TiO<sub>2</sub> and its production cost is estimated as about 600 rubles. Production program is delayed due to precedence given the Ural district.

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43697. ANTONOV, L. B. Svodnyī obzor dannykh po apatito-nefelinovoĭ duge Khibinskikh tundr. (*In:* Khibinskie apatity, 1933. t. 6, p. 23–25.) Text in Russian. *Title tr.:* General review of data on the apatite-nepheline arch of the Khibiny tundras.

Contains description of distribution and character of the apatite layers in Yukspor, Kukisvumehorr Rasvumchorr deposits. The deposits were found in five associated lenses of the spotted and banded structure. Total capacity of the spotted body is estimated 695 million tons, containing 191,700 tons phosphoric anhydride, 78.5 million tons metallic phosphorus and 479 million tons mineral apatite. The banded lenses are estimated 1.019 million tons, containing 183 million tons phosphoric anhydide, 75 million tons pure metallic phosphorous and 458.5 million tons apatite. Total deposits of the apatite rocks are estimated about two million tons.

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43698. ANTONOV, PAVEL. Na Chukotke. (Ogonëk, Apr. 1955. god 33, no. 17, p. 18–19, 7 illus.) Text in Russian. *Title tr.:* In Chukotka.

Sketches of Chukchis, with photographs by S. Medynskil, stressing progress: airplane transportation, motor boats for hunting, radio, schools, veterinary supervision of reindeer, fostering of ivory carving, etc. The 20,000-head reindeer herd owned by Lenin collective farm is mentioned.

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43699. ANTROPOV, PETR AKOVLE-VICH. Geologicheskie karty SSSR. (Nauka i zhizn', Mar. 1956. god 23, no. 3, p. 4–7, illus.) Text in Russian. Title tr.: Geological maps of the U. S. S. R. Popular account of cartographic work carried out by Soviet geologists since 1925, given by the Minister of Geology and of Preservation of Mineral Resources. Work of the Institute of Geology in the Arctic (Institut geologii Arktiki) is mentioned (p. 6). Copy seen: DLC.

43700. ANTROPOVA, V. V. Aleuty. (In: Akademifa nauk SSSR. Institut étnografii. Narody Sibiri, 1956. p. 986–90.) 7 refs. Text in Russian. Title tr.: Aleuts.

Sketches (along the lines of No. 43701) the pre- and post-Revolutionary economy of the Aleuts (345 in 1926) living on the Commander Islands: Bering and Mednyy; the 19th century settlement of these islands by Aleuts and Eskimos, their administration by the Russian-American Company and later by the Alaska Commercial Co.

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43701. ANTROPOVA, V. V., and V. G. KUZNETSOVA. Chukchi. (In: Akademiâ nauk SSSR. Institut êtnografii. Narody Sibiri, 1956. p. 896–933, illus., plate.) 30 refs. Text in Russian. Title tr.: Chukchis.

The Chukchis (12,364 in 1926 - 70 percent nomads), the largest ethnic group of the northeastern Paleosiberians, live (preeminently) in the Chukotskiy national district, along the lower Kolyma River and in the Parapol'skiy Dol (Koryak national district). Their distribution within that area, history, relationship and assimilation with the neighboring Eskimos and Koryaks, also the physical conditions, vegetation and wildlife of their area are outlined. The economy and material culture of the two basic groups, the nomadic reindeer herders and the settled sea-mammal hunters, are described: herding and hunting, equipment, tools and weapons, leather and fur production, trade relations with Russians and Americans, food and preservation, clothing, housing: "yaranga" tents predominate with both groups; their means of travel are sketched: reindeer- and dog-drawn sledges, the latter used only by the coastal Chukchis, and Eskimo-type canoes, baldara. The tribal organization (originally matriarchate), slavery, marriage customs (group marriage and "loan" of wives, polygamy), incipient class society, trade and exchange of basic commodities between the reindeer-herders and sea mammal hunters, religious beliefs (animism, spirit worship, shamanism, sacrifices and festivals, burial customs) and folklore are discussed and compared mainly with those of the Eskimos and Koryaks. The post-Revolutionary economic and cultural advances are stressed: collectivization, advantages of mixed reindeer-herding and sea-mammal hunting kolkhozes, introduction of new trades, education, emancipation of women, etc. The description of the pre-Revolutionary period is based on an unpublished(?) article by G. I. Mel'nikov. Copy seen: DLC.

43702. ANTROPOVA, V. V. Itel'meny. (In: Akademi@ nauk SSSR. Institut étnografii. Narody Sibiri, 1956. p. 978– 85, illus.) 13 refs. Text in Russian. Title tr.: Kamchadals.

An historical sketch of the indigenous population of Kamchatka (814 in 1926) stressing the 18th and 19th century oppression of the aboriginals, their revolts against the colonizers and the material benefits resulting from Russian peasant settlers. The native economy and culture are mentioned and the economic reconstruction under the Soviet regime treated as in No. 43701.

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43703. ANTROPOVA, V. V. Korîâki. (In: Akademiîâ nauk SSSR. Institut êtnografii. Narody Sibiri, 1956. p. 950—75, illus.) 24 refs. Text in Russian. Title tr.: Koryaks.

Outlines the past and present distribution, linguistic and racial affiliation, tribal division, and history of the Korvaks. They numbered 7434 in 1926, approx. 55 percent nomads, and live almost exclusively in the Korvak National District (56°-65° N. 158°-174° E.). The region's climatic conditions, fauna and flora are mentioned. The pre- and post-Revolutionary economy is described: reindeer herding (absence of herding dogs noted), sea mammal and fur-bearing animal hunting, housing and fortification (by earthworks) of settlements, means of travel (draught reindeer used by the nomad, dogs by the settled Koryaks), clothing, food, social conditions, religious beliefs (ancestor worship and transmigration of souls from ancestor to newborn infant, shamanism, etc.) and folklore. The Civil War and foreign intervention are noted and the reconstruction under the Soviet regime discussed: collectivization, economic and cultural advances, etc., as for the Chukchis (No. 43701). The pre-Revolutionary period is described from an (unpublished?) article by the late S. N. Stebnitskii and N. B. Shnakenburg.

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43704. ANTRUSHIN, N. Samolety razrushafut led. (Grazhdanskafa aviatsifa, Apr. 1956, god. 13, no. 4, p. 33.) Text in Russian. *Title tr.:* Airplanes

destroy the ice.

Delayed melting of winter ice in northern river deltas causes ice barriers and floods in spring. To hasten the break-up and prevent such floods in 1954-55, the winter ice in one arm of the Severnaya Dvina delta was covered by aircraft with black foundry waste and salt. The experiment proved successful and cheaper than using ice-breakers; it is to be repeated on a larger scale in 1956.

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ANUCHKIN, M. V., see Bodilovskii, V. A., and others. Zagotovka torfa . . . 1956. No. 44063.

43705. ANUFRIEV, I. Brêlomorskie l'dy, osen'rû, zimo'i vesno!. (Arkhangel'skoe obshchestvo izuchenia Russkago Srêvera. Izvrêstia, May 1909. v. 1, no. 1, col. 5–26, tables.) Text in Russian. Title tr.: Ice of the White Sea, in fall,

winter and spring.

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Paper delivered on May 8, 1909 to the Arkhangel'sk Society for Study of the Russian North. The common view of a short navigation season in the White Sea (4-5 months, May-Oct.), is refuted on the basis of meteorological and hydrological data and the writer's observations. Navigation is claimed possible for 8-9 months (May-Jan.). The high temperature and salinity of the water, fast tide currents, especially in the "Gorlo" (narrows), and prevailing winds keep the sea open until January; the heavy ice occurs in the spring.

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43706. ANUR'EV, S. N. O sodeĭstvii estestvennomu vozobnovleniû lesa v Arkhangel'skof oblasti. (Lesnoe khozſāistvo, Nov. 1956. god 9, no. 11, p. 34–36, table.) Text in Russian. *Title tr.:* Promotion of natural forest restoration in Arkhangel'skaya Oblast'.

Annual reduction of the forest area by cutting in the basins of the Severnaya Dvina, Pinega and Onega is reported to be some 118,000 hectares, and is expected to be about 180,000 h. by 1960. A reforestation program is described in detail with special attention to preserva-

tion of young trees, re-planting and seeding under improved conditions. Organization of personnel and special inspectors of high qualifications are considered essential to carrying out this program.

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43707. ANWAR, YEHIA M. Geological investigations in East Greenland, part 5. The petrography of the Prinsen af Wales Bjerge lavas. København, C. A. Reitzel, 1955. 31 p. illus., text map, 10 tables. (Meddelelser om Grønland. Bd. 135, nr. 1.) 19 refs.

A petrographical investigation made on lavas collected by L. R. Wager in the region 69° N. 32°-33° W. during the British East Greenland Expedition. 1935-1936. Field observations on the lavas were published earlier (cf. Arctic Bibliography, No. 19030). The Prinsen af Wales lavas form the top of the Plateau Basalt Series of lavas and tuffs of the Knud Rasmussens Land Kangerdlugssuaq region; they are the latest lavas known from this part of East Greenland. Their classification and distribution are given, and the various types discussed in some detail, with chemical analyses; the underlying plateau basalts are also noted. Main features of the lavas are summarized and their similiarity to certain Hawaiian lavas indicated. Origin has not been determined. Copy seen: DGS.

43708. AOKI, KIYOSHI. Analysis of the freezing process of living organisms, 12; the freezing curve of the twig of mulberry tree. (Teion kagaku [Low temperature science], 1955. v. 13, ser. B, p. 1–12, illus.) 6 refs. Text in Japanese. Summary in English.

Contains analyses of freezing curves of isolated mulberry twigs in late summer and winter. The different appearance of the graphs during the two seasons, indicating a different course of freezing,

is discussed and explained.

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43709. AOKI, KIYOSHI. The initiation of freezing in the insect; preliminary note. (Teion kagaku [Low temperature science], 1955. v. 13, ser. B, p. 51-58, illus., tables.) 7 refs. Text in Japanese. Summary in English.

Report of examinations on the stability of the supercooling state in prepupae of the slug moth (Monema flavescens). The effects of putting the body in contact with water droplets, small ice crystals, or

of drying it, immersing it in water, etc. were studied in relation to the freezing temperature of the prepupae.

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43710. AOKI, KIYOSHI. On the artificial hardening of the twig of mulberry tree. (Teion kagaku [Low temperature science], 1955. v. 13, ser. B, p. 13–20, illus.) 4 refs. Text in Japanese. Summary in English.

A study of freezing curves of isolated mulberry twigs previously exposed to cold and injured. Keeping twigs at 0° C. did not increase their frost resistance but certain of their tissues (cortical parenchym) did become hardened by such treatment. Copy seen: DLC.

APPELBOOM, JOHANNES W., see Brodsky, W. A., and others. The freezing point depression of mammalian tissues . . . 1966. No. 44144.

**APPLEBY, S.,** see Stephens, J., and S. Appleby. Polyneuropathy following . . . hypothermia. 1956. No. 48200.

43711. APPLEMAN, H. Low-temperature fog at the Edmonton airport as influenced by moisture from the combustion of natural gases. (Royal Meteorological Society, London. Quarterly journal, Jan. 1956. v. 82, no. 351, p. 99.) 3 refs.

Contains critique of G. W. Robertson's study (pub. in Royal Meteorological Society Quarterly journal 1955. v. 81, p. 190) on the combustion of hydrocarbon fuels and fog formation in which the heat of combustion was neglected. Added heat tends to lower the relative humidity of the environment. At lower temperatures such combustion actually produces fog. The combustion of natural gas would never result in saturation at temperatures much above -20° F. A reply by Robertson follows on the same page.

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43712. APPLEMAN, H. A note on the effect of aircraft exhaust on airport visibility. (American Meteorological Society. Bulletin, Jan. 1956. v. 37, no. 1, p. 19-21, graph, table.) 8 refs.

Case of reduced ceiling and visibility at Goose Bay, Labrador (53°20′ N. 60°25′ W.), on Dec. 4, 1954 is analyzed; it was apparently caused by the landing of three flights of F-86 jet aircraft; air temperatures were 9-12° F. Incomplete combustion of F-86 engines at low altitudes produces great quantities of

smoke and other nuclei which can "seed" an area on conditions of stability in the lower atmosphere, calm or very light winds, and high relative humidities. "Except for absence of a saturation requirement, these conditions are rather similar to those giving rise to radiation fogs." J. Clodman (q. v.) also dealt with this incident. Copy seen: DGS.

**43713.** APPLIED HYDRAULICS. Cold weather operation of hydraulics. (Applied hydraulics, Feb. 1956. v. 9, no. 2, p. 67–68, 111, illus., graph.)

Results are given of a laboratory study to determine the effect of oil viscosity on the operating efficiency of vane-type pumps. Hydraulic oils having high viscosity indices give maximum assurance of good starting characteristics at low temperatures while assuring good operation at higher temperatures. particularly important design factors at low temperatures determining maximum permissible oil viscosities for efficient operation are length and configuration of the pump intake pipe and the static head of oil in the feed reservoir relative to the Copy seen: DLC. pump.

**43714.** *APPROACH.* When winter comes. (Approach, Oct. 1956. v. 2, no. 4, p. 3–12, illus.)

Contains photographs and brief text on winter problems for Air Force and Navy operations. Snow and ice removal techniques at air stations and on carriers are illustrated. Copy seen: DLC.

43715. APRODOV, V. A. O morfotektonike severnykh polârnykh oblasteľ. (Akademifâ nauk SSSR. Izvestífâ, serifâ geograficheskafâ, Jan.—Feb. 1956. no. 1, p. 144–46.) 9 refs. Text in Russian. *Title tr.:* Morphotectonics of the northern polar regions.

Review and critical discussion of G. D. Rikhter's paper on basic features of geomorphology of the north polar regions (No. 42088). Rikhter's conception, though interesting and instructive, is found to be too theoretical, and to disregard the significance of local tectonic features.

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43716. ARAKISEKI, T. On the sea fog over the Okhotsk Sea. (Journal of meteorological research, Tokyo, 1955. v. 7, no. 2, p. 71–76, 7 text maps, graphs, table.) 6 refs. Text in Japanese. Summary in English.

"Some observational results of sea fog

on the coast of Okhotsk Sea in the summer seasons of 1951 and 1952 are examined . . . Main results are as follows:
(1) Synoptic situations which result in the occurrence of sea fog generally fall into three different types, each of which has a characteristic distribution of surface pressure. (2) The liquid content of fog was observed (table 1)."—Author's abstract.

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**43717. ARCHIBALD, D. C.** Basic weather services. (Weatherwise, Apr. 1956. v. 9, no. 2, p. 42–44, 2 illus.)

Brief descriptions of the land and sea weather stations operated by the Canadian Meteorological Service, with note on joint U. S.-Canadian arctic weather stations, their meteorological program and special investigations, personnel, administration. Copy seen: DWB.

**43718.** ARCHITECTURAL RECORD. "Luxury" housing will be constructed for Operation Deepfreeze in Antarctic. (Architectural record, Dec. 1955. v. 118,

no. 6, p. 199, 212, illus.)

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Describes prefabricated cold-weather housing. Sandwich panels  $(Y_i)''$  plywood sheets on both sides of  $3Y_i''$  glass fiber insulation) are  $4 \times 8$  ft. and lend themselves to modular construction. The floor truss ends will rest on  $6 \times 8$  in. wooden beams laid across wooden pads, which are  $4 \times 8$ -in. planking. These pads are placed 2.5 ft. outside the structure to prevent snow from melting under the pads. One  $20 \times 48$  ft. unit can be erected in 60 man-hours at  $-90^{\circ}$  F. Each unit will have its own heating and ventilating system, and a snow-melting tank with heat-exchanger coils. Copy seen: DLC.

43719. ARCTIC. Geographical names in the Canadian North. (Arctic, 1956.

v. 9, no. 4, p. 272-75.)

Lists 130 names and changes adopted by the Canadian Board on Geographical Names, Sept. 1955–May 1956, for official use in the Northwest Territories and Yukon. The names are presented according to the map sheets on which they appear, with approx. latitude and longitude of the geographic feature.

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43720. ARCTIC CIRCULAR. Agreement between Canada and the United States on the establishment of a Distant Early Warning system in Canadian territory. (Arctic circular, 1956. v. 9, no. 2, p. 23-31.)

Contains terms agreed upon May 5, 1955, relating to construction by the U. S. Government of DEW Line radar stations in the Canadian Arctic, viz.: location and size of airstrips and other sites, liaison arrangements, construction plans, provision of electronic equipment, construction and procurement, Canadian law; operation, ownership of removable property, telecommunications, scientific information, matters affecting Canadian Eskimos, Canadian immigration and customs regulations, use of airstrips, landing facilities, transportation, resupply arrangements, taxes, status of forces, supplementary arrangements and administrative agreements.

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43721. ARCTIC CIRCULAR. An airborne magnetometer survey of the arctic islands, 1955. (Arctic circular, 1956. v. 9, no. 1, p. 4-7, text map.)

In June 1955, an airborne magnetometer and scintillata-counter survey was made in the Queen Elizabeth Islands in conjunction with the helicopter-supported geological mapping project (Operation Franklin) of the Geological Survey of Canada. The Survey's Canso aircraft was based at Resolute, Cornwallis Island. The flight from Ottawa to Resolute is described. A modified program (due to poor weather) was completed by July 1. Flight lines are shown on map.

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43722. ARCTIC CIRCULAR. American Society of Polar Philatelists. (Arctic circular, 1956. v 9, no. 1, p. 10.)

This new society is affiliated with the American Polar Society. Its newsletter, Ice cap news, issued six times a year, deals with all aspects of polar postal news. Membership information is given.

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43723. ARCTIC CIRCULAR. Anthropological studies among the Attawapiskat Indians. (Arctic circular, 1956. v. 9, no. 1, p. 9-10.)

Personality characteristics of the Cree population of this region west of James Bay (52°57′ N. 82°15′ W.) were studied in summer 1955 by a party of four. Dr. J. J. Honigmann, the leader, noted that Indians were more familiar with the outside world than on his previous visit in 1947-48, that many had gone south to work, and the remainder seemed better off economically. Housing program was begun in 1955.

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**43724.** ARCTIC CIRCULAR. C. G. S. "Baffin" officially accepted by the Canadian Hydrographic Service. (Arctic circular, 1956. v. 9, no. 3, p. 45–46.)

Notes delivery (Jan. 22, 1957) to government service of new ice-breaker research vessel (cf. No. 38552). The Baffin can be self-supporting for an entire season. During winter 1956–1957 she was used as an ice-breaker in the St. Lawrence; in summer 1957 she will carry out charting work off southwest Baffin.

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43725. ARCTIC CIRCULAR. Coats

of arms for the Yukon Territory and the Northwest Territories. (Arctic circular, 1956. v. 9, no. 3, p. 43-45, 2 illus.)

Armorial bearings incorporating such novel heraldic motifs as Eskimo dog, snow, arctic fox, narwhal, were designed by Lt.-Comdr. Alan B. Beddoe and registered by College of Heralds.

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43726. ARCTIC CIRCULAR. The mace of the Council of the Northwest Territories. (Arctic circular, 1956. v. 9,

no. 1, p. 9.)

The mace, presented to the Council in Jan. 1956, is made of northern materials, carved by Eskimos of Cape Dorset, Baffin Island, with quillwork by Indians of Yellowknife. It has been on display in Ottawa and various other Canadian cities, 1956–1957. Copy seen: DLC.

**43727.** ARCTIC CIRCULAR. Northern activities of the Geodetic Survey, 1955 and 1956. (Arctic circular, 1956.

v. 9, no. 2, p. 21-23.)

Notes (no results given) astronomic determinations made during the Labrador trip to Foxe Basin, summer 1955; extension of shoran network in 1955-1956 to cover the Yukon and southern arctic islands (to about 75° N.); extension of triangulation network along Hamilton River, Labrador, to Atlantic coast, and reconnaissance between Knob Lake and Nain; precise level line completed in 1956 along the Quebec North Shore and Labrador Railway from Seven Islands to Schefferville (Knob Lake). Geodetic Survey staff members taking part are listed. Copy seen: DLC.

AREF'EV, Z. N., see Lavrov, A. V., and Z. N. Aref'ev. Metodicheskoe soveshchanie pochvovedov . . . 1956. No. 46271.

ARENS, JOHN J., see U. S. Office of Naval Operations. Canadian North. 1956. No. 48635.

ARESTAD, SVERRE, see Redmyer, H. E. Reindeer in Alaska . . . 1951 No. 47542.

ARÉTAS, RAYMOND, see Berlioz, J., and C. Jouanin. Étude . . . collection d'oiseaux . . Pribilof. 1951. No. 44000.

43728. AREZIO, GIORGIO, and others. Azione del citocromo C sul cuore isolato in ipotermia. (Minerva cardioangiologica, 1956. anno 4, no. 9, p. 574-77, illus.) 20 refs. Text in Italian. Summary in English. Other authors: P. Metalli and G. Silini. Title tr.: Action of cytochrome C on the isolated heart during hypothermia.

Account of observations on isolated guinea pig hearts perfused with Ringer of different temperatures containing various amounts of cytochrome C in solution. This cytochrome showed a certain effect only on cardiograms abnormal either due to low temperature or due to experimental

condition (heart isolated).

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43729. AREZIO, GIORGIO, and others. Azione del freddo sul cuore isolato; studio elettrocardiografico. (Minerva cardioangiologica 1956. anno 6, n. 3, p. 189-97, illus., tables.) 23 refs. Text in Italian. Summary in English. Other authors: P. Metalli, and G. Silini. Title tr.: The effect of cold on the isolated heart; electrocardiographic study.

A study of the isolated, Ringerperfused heart of the guinea pig. Electrocardiographical changes produced by cold consisted in a slowing of the rate and morphological changes of the tracings. All modifications were reversible by

raising the temperature.

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43730. AREZIO, GIORGIO, and others. Azione dell' A. T. P. sul cuore isolato in ipotermia. (Minerva cardioangiologica, 1956. anno 4, n. 6, p. 364-69, illus.) 23 refs. Text in Italian. Summany in English. Other authors: P. Metalli and G. Silini. Title tr.: The action of ATP upon the isolated hypothermic heart.

Account of electrocardiographic observations on isolated guinea pig hearts maintained in Ringer solutions of 20° and 38° C. The effect of addition of various concentrations of ATP to the solutions are traced and the underlying

mechanism and nature of the effects discussed. Copy seen: DNLM.

AREZIO, GIORGIO, and T. 43731. BERETTA. Influenza di farmaci neurovegetativolitici sulla reazione organica alle variazioni ambientali di temperatura. (Acta anaesthesiologica, 1955. v. 6, no. 4, p. 299-311, illus.) 7 refs. Text in Italian. Summary in English. tr.: Effect of neurovegetativolytic drugs on the organic reaction to ambient temperature changes.

Account of animals made hyper- and hypothermic by Di Macco's method and simultaneously treated with Largactil or Hexamethonium. Largactil was found to inhibit both sections of the neurovegetative system, while the second drug affected only the orthosympathicus. Largactil had also a much stronger metabolism-lowering effect than Hexamethonium. Copy seen: DNLM.

43732. AREZIO, GIORGIO, and others. sull'ipotermia ipoossica Studio coniglio. (Minerva chirurgica, Sept. 1956. anno 11, no. 18, p. 874-79, illus.) 6 refs. Text in Italian. Other authors: P. Prioreschi, G. Silini, and P. Metalli. Title tr.: Study of hypoxic hypothermia in the rabbit.

Account of investigation on rabbits made hypothermic with and without reduction of ambient oxygen. effects of falling ambient temperature, of restraint and of both combined upon the two groups of hypothermic animals was studied, including body temperature, ECG, survival, etc.

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AREZIO, GIORGIO, and C. 43733. ARISI. Studio sull'ipotermia ipoossica nella cavia. (Acta anaesthesiologica 1955. v. 6, no. 4, p. 273-82, illus., table.) 5 refs. Text in Italian. Summary in Eng-Title tr.: A study in hypoxic hypothermia in the guinea pig.

Account of investigation of the behavior of guinea pigs submitted to hypothermia and hypoxia with muscular movements restrained. Restraint was found to be important in reaching hypothermia but the latter is obtained easier and with less risk with Ozlevels in respiratory air progressively reduced.

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ARISI, C., see Arezio, G., and C. Arisi. Studio sull'ipotermia iposssica nella cavia. 1955. No. 43733.

43734. ARKELL, WILLIAM JOSCE-LYN. 1904- . Jurassic geology of the world. New York, Hafner, 1956. xv, 806 p. 46 plates, text maps, cross-sections,

28 tables. approx. 2800 refs.

A basic work, representing "the first attempt at a synthesis of one system on the basis of marine faunas in all parts of the world." Main part of the book is arranged geographically by continents or major parts of continents, subdivided by regional units. In Pt. 6 (Northeastern Europe and northern Asia) and Pt. 7 (America and Antarctica), the following arctic regions are dealt with in turn (p. 498-538): Pechora River basin, Zemlya Frantsa-Iosifa; Svalbard; Andøy and Lofoten Islands (Norway); Ob' Anabar River basins; northeastern Siberia and Novosibirskiye Ostrova; Lena and Vilyuy River basins; East Greenland coast between 70°-77° N.; Prince Patrick Island in the Canadian Arctic Archipelago; arctic slope of Yukon and Alaska; Alaska; southwest Yukonsouthern British Columbia Coast Ranges. concluding portion of the book the stratigraphic data are surveyed for the information given on the oceans (including Arctic Basin), faunal realms, climate, paleogeography, volcanic and plutonic activity, and earth movements. The extensive bibliography is arranged by regions to correspond with the text. Reviewed by Carey Croneis in American Association of Petroleum Geologists, Bulletin, Nov. 1956. v. 40, no. 11, p. 2759-61; and by Ralph W. Imlay in Journal of Paleontology, Nov. 1956. v. 30, no. 6, p. 1376-77.

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43735. ARKTISK INSTITUT, Køben-Danish scientific activities in Greenland in 1955. Charlottenlund. 1956? 10 p. Mimeographed.

Contains descriptions of Geological Survey of Greenland investigations in the Southwest, and glaciological studies between Godthaab and Narssaq; ground temperature measurements at Mesters Vig, and paleontological investigations in East Greenland. The 35-man Geological East Greenland Expedition led by Lauge Koch which worked in the Daneborg-Danmarkshavn region, Traill Ø, and west of Staunings Alper is reported; also the eight-man Danish National Museum-Geological Survey of Greenland archeological expedition to Disko Bay, led by E. Holtved. E. Knuth's archeological investigations in Danmarks Fjord, and Chr. Vibe's zoological investigations in Egedesminde Distrikt and Søndre Strømfjord are noted. Activities of Greenland Fisheries Investigations along the west coast and in Davis Strait are indicated. F. Terkelsen collected fungi in West Greenland.

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**43736.** ARMOUR RESEARCH FOUN-DATION, Chicago, Ill. Investigation of solar energy for ice melting, final report. Chicago, June 1, 1949. 54 l. diagrs., tables. (U. S. Coast Guard. Project no.

90-688D.) 22 refs.

"The possibility of melting ice on rivers and lakes by applying a layer of material that would absorb the solar energy was studied. An analysis, which assumed steady state conditions, showed that the addition of an absorbent laver causes melting if the air temperature is about 32° F. and the intensity of solar energy is between 800 and 1,000 B. t. u./ sq. ft./day. When melting occurs under natural conditions, an absorbent layer would increase the rate 2 or 3 times (approx. 1 to 2 in./day according to the clearness of the ice sheet). Study of industrial waste materials as possible absorbers is recommended. It is estimated that 105,000 lbs. of industrial slag of dark color (absorbtivity 0.70 to 0.80) would give a layer 0.03 in. thick, 100 ft. wide, and a mile long."-SIPRE. Copy seen: DLC.

43737. ARMSTRONG, J. G. Ten-man arctic ration pack X-50; report of trial on DIDTEST II, February 1950. Ottawa, Toronto, 1954. 3, 35 p. illus., tables, map. (Canada. Defence Research Medical Laboratories. Report

no. 173-1.) 3 refs.

Account of tests of this experimental pack, by 25 participants of the Exercise at Fort Churchill, Manitoba, Feb. 6-18, 1950. It is indicated that a five-man pack would be more suitable for the troops under existing conditions. Some reduction in the quantity of food is advised, and improvements or replacements are suggested for a series of items. More variety and better choice is suggested for the noon meal, etc.

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43738. ARMSTRONG, J. G. U. K. 10-man composite ration pack; report of Canadian Army user trials during winter training exercises January-March 1950.

Ottawa, Toronto, August 1954. 3, 18 p. illus. tables. (Canada. Defence Research Medical Laboratories. Report no. 173–2.)

Based on experience reports of 450 Canadian Army personnel who used the ration. A five-man pack and over 4,000 calories per man per day are recommended together with higher acceptability for Canadians, better cans and packages, etc. Cigarettes, chewing gum and paper towels should be included.

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43739. ARMSTRONG, J. G. U. S. aretic trail ration AT-1; a report of Canadian Army user trial during Exercise Sun Dog 1, February—March 1950. Ottawa, Toronto, August 1954. 3, 19 p. illus., tables. (Canada. Defence Research Medical Laboratories. Report no. 173-6.) 2 refs.

Account of tests aimed to determine the suitability of this ration "in providing food and necessary accessories for infantry troops engaged in patrol exercises during cold weather." The quantity of food was considered insufficient, partially due to low acceptability of the meat bar; other considerations regarding preference, quality, type, packing, etc., are stated.

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43740. ARMSTRONG, J. G. U. S. individual combat ration C-3; a report of a Canadian Army user trial during winter training exercises 1949–1950. Ottawa, Toronto, August 1954. 3, 16 p. illus., tables. (Canada. Defence Research Medical Laboratories. Report no. 173-4.)

Report based on comments of 22 Canadian Army personnel who used this ration during training exercises in Feb. 1950. The pack was found satisfactory

for cold-weather operations.

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43741. ARMSTRONG, J. G. U. S. small detachment ration 5-in-1B; a report of Canadian Army user trials during winter training exercise January—March 1950. Ottawa, Toronto [1954?] 3, 16 p. illus., tables. (Canada. Defence Research Medical Laboratories. Report no. 173–3.) 2 refs.

Reports of three groups comprising 185 army personnel who used this ration. Five-man packs were found preferable to any others; favored items and suggestions as to quantity, types of food, size of cans, etc., are listed.

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ARMSTRONG, J. G., see also Berryhill, F. M., and others. Arctic survival food packets X-50 and RPX 2B. 1954. No. 44008.

ARMSTRONG, J. G., see also USQM Food & Container Institute. Nutrition symposium. 1954. No. 48643.

43742. ARMSTRONG. TERENCE EDWARD, 1920-, and B. B. ROB-ERTS. Illustrated ice glossary. (Polar record, Jan. 1956. v. 8, no. 52, p. 4-12, 40 illus.) ref.

Contains approx. 70 sea ice and associated terms, an abstract of a fuller glossary, covering also land ice terms, projected for future publication by the Scott Polar Research Institute. It is a development of a British Admiralty glossary pub. in 1953 (Arctic Bibliography, No. 34989). This shorter version is intended as a practical aid to navigation, covering the minimum number of terms required. Each term is briefly defined and reference is made to photograph in which the feature is illustrated. Following the alphabetical listing is a classified summary in which terms are listed under three main headings (floating ice, land ice-glaciers, navigation in ice).

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ARMSTRONG. 43743. TERENCE EDWARD, 1920- . Otto Yul'yevich (Geographical journal, Dec. Shmidt. 1956. v. 122, pt. 4, p. 534.)

Obituary of this noted Russian oceanographer, 1891-1956, Director of the Arctic Institute U. S. S. R., 1930-1932, and Head of the Chief Administration of the Northern Sea Route, 1932-1939. His leadership of the Sibiriakov (1932) and Cheliuskin (1933-1934) expeditions, and organization of the first so-called North Pole drifting station in 1937 are noted, also his dismissal in 1939, and subsequent editorial, etc. work. Copy seen: DGS.

43744. ARMSTRONG. TERENCE EDWARD, 1920- . Sea ice recording and reporting methods. Ottawa, Defence Research Board, Apr. 1955; published: Queen's Printer, 1957. 53 p. diagrs., fold. map, fold. table. 43 refs.

"The problems involved in, and types of information needed for, recording and reporting floating ice are outlined; existing methods are reviewed; and a new system for use in the Canadian Arctic is recom-The problems considered include: terminology, recording of information and symbols used, and the transmission of data from airborne, shipborne, and shore observers by radio (in code form or by facsimile charts) and in the form of a log book or ship's-track charts. The use of ice records for short-range forecasts of ice movements and in studies on the general patterns of ice behavior is also considered. A list of Russian, Finnish, Norwegian, Swedish, Danish, German, French, and Spanish equivalents of recommended English terms and the various codes in current use are appended. and a comparison is made between the U. S. Hydrographic Office system and that recommended for Canada."-SIPRE. Copy seen: DN-HO.

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43745. ARMY AVIATION. It happened in Alaska. (Army aviation, Aug. 1955. v. 3, no. 8, p. 19-21, illus., map.) Contains account of operations of the U. S. Army 30th Engineer Group in Alaska. The group unloaded in Anchorage for transfer to Kotzebue and Umiat. The operations were supported by U.S. Army helicopters and light planes.

ARNAL, MARIE-CLAUDE, see Chevillard, L., and others. Variations de la sensibilité douloureuse . . . 1956. 44335.

Otter aircraft were particularly valuable

in air operations.

43746. ARNELL, HAMPUS WILHELM, 1848-1932, and C. E. O. JENSEN. Die Moose des Sarekgebietes, Abteilung I-III. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907-1939. 3, Botanik, Lfg. 2, pub. 1907, reprinted 1920, p. 71-132, diagrs.; (II-III), Lfg. 3, pub. 1910, p. 133-268, diagrs., tables.) 36 refs. Text in German. Title tr.: The mosses of the Sarek region, I-III.

Following a description of the area, its vegetation zones, the itinerary, weather, etc., a study of the liverworts and peat mosses is presented first (p. 74-132) with details on location and substrate, taxonomy, geographic distribution, anatomy, biology, etc. Some 118 forms are dealt Part 2 (p. 133-221) covers the with. mosses proper along similar lines; 260 forms are described. Part 3 (p. 221-47) contains a general discussion of the mosses of the area; their distribution according to plant zones; distribution according to taxonomic grouping: frequency of occurrence; fertility; geographic origin. In a final section (p. 248-66), the junior author discusses the plant associations in which mosses occur and the moss associations. The study is the first one on mosses and related plants of the area; the field work was carried out (approx. 67°20′ N. 17°30′ E. 590–920 m. alt.) in summer 1902. *Copy seen:* CaMAI.

43747. ARNELL, KNUT. Vegetationens utvecklingsgång i Norrland. Uppsala, Almqvist & Wiksell, 1927. 28 p. tables. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, bd. 4, no. 1.) Text in Swedish. Summary in German. Title tr.: Course of development of vegetation in Norrland.

A plant-phenological study based on observations during 1873–1924 in northern Sweden (Norrland) which includes central and southern Lapland. The aim of the study is to determine the median date of phenological events (blooming, fruiting, leaf-fall) and their progression in a northward or opposite direction. Common trees and wild plants and flowers, vegetables, fruit and berries, cereals, hay, etc., are included.

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43748. ARNEMO, R., and ROSÉN, G. Fågel- och däggdjursiakttagelser i Abisko. (Fauna och flora 1956. Årg. 51, häfte 5-6, p. 219-22.) Text in Swedish. *Title tr.:* Bird and mammal observations at Abisko.

Lists birds (37 sp.) observed by the writers and B. Warensjö Jan.—May 1956 (approx. 68°20′ N. 19° E.) also five mammals: wolverine, ermine, otter, wolf and squirrel; dates, location, etc., are given.

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43749. ARNOLD, CHESTER ARTHUR, 1901- . Searching for plant fossils in Alaska. (Research reviews, June 1953, p. 1-9, illus.)

Recounts investigation made during July-Aug. 1951 in the Naval Petroleum Reserve no. 4 located between the Brooks Range and the arctic coast: with information on the physiography of the area, its weather, permafrost, vegetation, etc., and the itinerary. The fossils found include species of Sequoia, Gingko, Cedrus, and others.

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ARNOLD, K., see Hamilton, R. A., and others. British North Greenland Expedition, 1952-4... results. 1956. No. 45412.

43750. ARNOL'D-ALÎAB'EV, V. I. Formy obrazovaniâ ledânogo pokrova

vodoemov. (In: VeInberg, B. P., and others: Led . . . 1940. p. 371-91. illus., diagr., graph.) 22 refs. Text in Russian. Title tr.: Forms of ice cover over bodies of water.

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The formation of ice covers over stationary and moving waters is described using specific ice terminology approved by the Second Hydrological Conference. Terms described and illustrated include slush, ice foot, "nilas" (frozen snow slush), pancake ice, snow ice, puddle ice, "torosy" (hummocks) "stamukha" (stranded ice cake), "polynya", polar pack, hummock, icebergs, etc. The structure of clear, semi-transparent, and sludge ice is analyzed.

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43751. ARNOL'D-ALIAB'EV, V. I. Ob upotreblenii slov: snezhnyt-snegovol, ledianol-ledovyl. (Meteorologiia i gidrologiia, Oct.—Nov., 1939. no. 10–11, p. 196–97.) Text in Russian. *Title tr.:* Use of the words snow and ice as adjectives.

The word "snezhny!" is applied to an object made of snow (snow hill, snow ball, snow fall, etc.); "snegovo!" however, is used for an object related to snow (snow line, snow water, snow survey, etc.). Similarly the word "lediano!" is applied to objects made of ice (ice house, ice cover, ice cave, etc.) in contrast with the word "ledovy!," which is used with the connotation, related to ice (ice profile, ice service, ice instruction, ice difficulties, etc.).

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ARNOL'D-ALIAB'EV, V. I., see Veïnberg, B. P., and others. Rost . . . lediânogo pokrova. 1940. No. 48717.

ARNOVLJEVITCH, V., see Marinkovitch, V., and others. La répartition du radiophosphore . . . organes du rat . . . hypothermie . . . 1956. No. 46623.

43752. ARODZERO, A. M., and R. P. LAKHNO. Tekhnicheskoe obsluzhivanie oborudovanifa na masterskom uchastke v zimnikh uslovifakh. (Lesnafa promyshlennost', Feb. 1954. god 14, no. 2, p. 17–20, table, diagrs.) Text in Russian. Title tr.: Technical services under winter conditions in the lumber camp repair station.

Describes the general arrangement of storage and repair shop for lumber camp equipment: tractors, electric-power station, automotive saws, cranes, winches, etc. A special steam boiler with a set of hoses is provided for heating. The

tractor and crane engines, parked on open ground. A movable electric power station provides the current for charging of starting batteries and for electric machine tools in the repair shop.

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43753. ARSENAULT, M. G., and J. S. BARLOW. Preliminary report of a spontaneous condition in captive lemmings, Dicrostonyx groenlandicus, diagnosed as diabetes mellitus, October, 1954. 7 p. illus. tables. (Canada. Defence Research Northern Laboratory, Technical paper, no. 4.) Ref.

Description of symptoms in captive lemmings developed only in winter and spring. Lack of willow leaves and sedges from diet is believed to be responsible for disease. Insulin and low carbohydrate

diet reduced the symptoms.

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43754. ARSENT'EV, ALEKSANDR IVANOVICH. Razrabotka mestorozhdeniI traktorno-skrepernymi agregatami. Moskva, Gos. nauchno-tekhnicheskoe izd-vo lit-ry po chernoI i fsvetnoI metallurgii, 1955. 136 p., tables, illus., graphs, diagrs. 54 refs. Text in Russian. Title tr.: Excavation of deposits by tractor-scraper outfits.

Technical details and operating characteristics of scrapers of various capacities (1.5-15 ton) are described. Their use in different types of work under different climatic conditions are reported (p. 67-77 and 105-118), including winter and "Operations were carried permafrost. out in air temperatures as low as -30° C. Formulas for calculating depth and speed of ground freezing are given. The most economical procedure was to start operations at the beginning of winter. Removal of the thin frozen layer was easily accomplished, and 24-hr. operation of scrapers prevented solidification of the lower layers."-From SIPRE.

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43755. ARTAMONOV, D. L'goty voennosluzhashchim i ikh sem'iâm. (Voennyl vestnik, Nov. 1956. god 36, no. 11, p. 82–87.) Text in Russian. Title tr.: Privileges of servicemen and their families.

Includes (p. 82-83, 85) data on privileges (cash bonuses, extended leaves, "living space" for families left at home, etc.) of persons working in the far North.

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43756. ARTEM'EV, G. V. Elektrosvetokul'tura ovoshchel v Zapolar'e. (Priroda, Sept. 1956, no. 9, p. 100–102, 2 illus.) Text in Russian. *Title tr.:* Vegetable culture with electric light in arctic regions.

Describes culture of tomatoes and cucumbers (Solanum nigrum) using incandescent and luminescent lamps, based on the experience of the Noril'sk kolkhoz in Krasnoyarsk District. The study is still in an experimental stage, and a combination of both types of lamp at various stages has been found to give the best results so far. Copy seen: DLC.

43757. ARTEM'EV, G. V. Puti snizheniâ sebestoimosti rannikh ovoshchel v Zapolâr'e. (Sad i ogorod, Oct. 1956, no. 10, p. 23–27, illus., tables.) Text in Russian. *Title tr.:* Means of reducing the cost of early vegetables in polar regions

Recounts experimental results from artificial illumination of tomatoes and cucumber seedlings in hothouses of Taymyr National District, at 69° N. Two systems of lamps were used; effectiveness of artificial light is compared with that of daylight; electricity used is indicated.

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ASADA, M., see Nei, T., and others. Protective . . . winter clothes . . . skin temperature . . . cold. 1956. No. 46972.

ASANUMA, E., see Nei, T., and others. Protective . . . winter clothes . . . skin temperature . . . cold. 1956. No. 46972.

43758. ASCHOFF, JÜRGEN. Wechselwirkung zwischen Kern und Schale im Wärmehaushalt. (Archiv für Physikalische Therapie, 1956. Jahrg. 8, Heft 3, p. 113–33, illus.) 64 refs. Text in German. Title tr.: Mutual effects between core and periphery in the thermal economy.

Following a theoretical analysis of the physiology of heat transit through the periphery ("shell") of the human body, the author discusses this problem on the basis of extensive experiments. These include such on heat transfer from the extremities to ambient media; heat transit through the extremities under various temperatures of ambient air or water; blood circulation under above conditions; experiments with dummies; diurnal fluctuation in temperature of

various body regions; and diverse environmental conditions, etc.

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43759. ASHMEAD, WILLIAM HARRIS, 1855–1908. Descriptions of new Braconidae in the collection of the U. S. National Museum. (U. S. National Museum. Proceedings, Sept. 25, 1889. v. 11, p. 611–71.)

Contains a systematic list of this family, with keys to the genera and species, and descriptions of two new genera and about 150 new species. Bracon alaskensis (p. 615) and Gymnoscellis yukonensis (p. 656) both collected at Fort Yukon, Alaska, are included.

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43760. ASHMEAD, WILLIAM HARRIS, 1855–1908. Descriptions of new Ichneumonidae in the collection of the U.S. National Museum. (U.S. National Museum. Proceedings, Apr. 21, 1890. v. 12, no. 779, p. 387–451.)

Contains keys to the species and descriptions of 150 new species of ichneumon flies, among them Amblyteles contractus (p. 392), Pezomachus alaskensis (p. 421) and Pimpla yukonensis (p. 445) n. spp., all from Alaska.

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43761. ASHRABOV, ABBAS BABAE-VICH, and A. I. IVANOV-DIATLOV. Primenenie sbornogo zhelezobetona v stroitel'stve; v usloviîakh Uzbekskof SSR. Tashkent, Gos. izd-vo Uzbekskof SSR, 1956. 54 p. illus., tables, diagrs. 8 refs. Text in Russian. *Title tr.:* The use of assembled reinforced concrete in constructions; under conditions of Uzbek SSR.

General description of mass production of prefabricated building parts, including (p. 20-33) outline of the manufacturing process of "Keramzite," often used as an essential porous component in heatinsulating and frost-resistant concrete. "Keramzite" is the product of clay and clay shales, fired at 1,100-1,300° C. in a rotating furnace into a porous mass, later crushed to rubble of various size. Preparation of Keramzite-concrete, its physical and mechanical properties, etc., are given. Copy seen: DLC.

43762. ASHWORTH, JAMES HART-LEY, 1874-1936. The annelids of the family Arenicolidae of North and South America, including an account of Arenicola glacialis Murdoch. (U. S. National Museum. Proceedings, Sept. 23, 1910. v. 39, no. 1772, p. 1–32, 14 illus.)

Contains a key, followed by descriptions of the genus Arenicola and five species. A. marina (Labrador) A. claparedii (Aleutian Islands) and A. glacialis (Point Barrow) are included.

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43763. ASKLUND, BROR HENRIK VALDEMAR, 1896— . Apatitjärnmalmerna och geokemien. (Geologiska föreningen, Stockholm. Förhandlingar, 1949. Bd. 71, häfte 2, no. 457, p. 333–46, diagr.) 7 refs. Text in Swedish. Summary in English. *Title tr.:* Apatite iron ores and geochemistry.

Origin of the Kiruna type ores is discussed from a geochemical viewpoint, the question being whether they could originate through the process of liquid immiscibility or fractional crystallization, or whether secondary enrichment is necessary.

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43764. ASKLUND, BROR HENRIK VALDEMAR, 1896— . Apatitjärnmalmernas differentiation. (Geologiska föreningen, Stockholm. Förhanglingar, 1949. bd. 71, håfte 1, no. 456, p. 127–76, 185–91, 4 illus., 24 diagrs. text map) 54 refs. Text in Swedish. Summary in English. Title tr.: The differentiation problem of apatite iron ores.

The problem, as presented here, is whether differences in Swedish iron ores of the Kiruna type are the result of differences in magmatic occurrence in Archean time or of more recent processes. The Kiruna ores, low in silica and variable (but frequently high) in soda content, are likened in origin to those of the Adirondack Mineville district and others, in the possibility that they are concentrations arising out of the surrounding volcanies, which seem to be related to local original differences of subcrustal nature. Ternary diagrams are used to illustrate differences in the ores. Conclusion is offered that differentiation originates in the nature of the parent magma, detectable especially in its low silica content, and that the ore relationships can be traced by means of the contained phosphorus. Discussion Per Geijer, N. H. Magnusson, Looström, T. Hagerman and the lecturer is added (p. 185-91).

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43765. ASKLUND, BROR HENRIK VALDEMAR, 1896- . Fjällkedjans skolltektonik; ett diskussionsinlägg. (Geologiska föreningen, Stockholm. Förhandlingar, 1951. bd. 73, häfte 1, no. 464, p. 85–99.) 22 refs. Text in Swedish. Summary in English. *Title tr.:* Nappe tectonics of the border mountain chain; a contribution to the discussion.

Investigation, study, and interpretation of the nappe structures in northern Sweden have led to duplication of names for several structures, along with some apparent misinterpretation of the nature of the rocks concerned. Attempt is made to clarify the confusion and correct interpretations. *Copy seen:* DGS.

43766. ASKLUND, BROR HENRIK VALDEMAR, 1896- . Norges geologi och fjällkedjeproblemen. Et jämförelse mellan de norska synpunktera och de svenska beträffande den mellersta fjällkedjedelen. (Geologiska föreningen, Förhandlingar, Mar.-Apr. Stockholm, 1955. bd. 77, häfte 2, no. 481, p. 185-203, diagr., 5 text maps.) 20 refs. Text Title tr.: Norges geologi in Swedish. and the problem of the border mountain

Comparison of the Norwegians' and Swedes' viewpoints on the geology on their respective sides of the Caledonide mountains that form all except a small part of their common boundary. Beginning with Holtedahl's view of the pre-Devonian geosyncline (cf. his Norges geologi, No. 29684), investigations in the two countries are compared. In well separated sections of the peninsula, reconstruction of the history which coordinates an outcrop in Norway with one in Sweden may be difficult and questionable. But where an anticline crosses the border, as one does well north of Trondheim, its history in the two countries must be reconciled. These considerations involve the geology of arctic Scandinavia. Copy seen: DGS.

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43767. ASLA, EINAR. Fra Helgeland. (Tidsskrift for skogbrug, Mar. 1910. Aarg. 18, hefte 3, p. 48-50.) Text in Norwegian. Title tr.: From Helgeland. Discusses the good growth of young trees in the twelfth consecutive poor seed year. Foreign varieties are especially fast growing in early years. Weather is described, and questions raised as to

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43768. ASLA, EINAR. Høstplanting. (Tidsskrift for skogbrug, Jan. 1910.

means of maturing native seed.

Aarg. 18, hefte 1, p. 13-15.) Text in Norwegian. *Title tr.:* Fall planting.

Includes reference to experience in Helgeland, Nordland, where the best time for fall planting may be from September to November, depending on location and weather conditions. Copy seen: DA.

ASSENMACHER, I., see Benoit, J., and others. Apparition . . . cycles sexuels . . . canard . . . obscurité totale. 1956. No. 43962.

ASSOCIATION DE GÉOGRAPHES FRANÇAIS, see Bibliographie géographique internationale. 1956. No. 44020.

ASUNCION, C. L., see Masoro, E. J., and C. L. Asuncion. Fatty acid synthesis from . . . carbohydrate . . . cold . . . 1956. No. 46652.

**43769. ATKINSON, CLINTON E.** Fish and Wildlife Service research program for Alaska salmon. (*In:* Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 87–90.)

Outline of fisheries research in the Territory since the early 1920's, its difficulties, work of the Salmon Commission, recent reorganization and change in research policies: current program of salmon fisheries, work on herring.

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43770. ATKINSON, CLINTON E. Notes on the life history of the tidepool johnny, Oligocottus maculosus. (Copeia, Mar. 9, 1939, no. 1, p. 23–30, illus., diagrs.) 6 refs.

Contains a study of this small cottoid fish, based partly on a collection from the Canadian-Alaska area. Data on early life history, spawning habits, length-weight relationship, age and growth are supplied. It appears that O. maculosus spawn several times in their breeding season from April through July. The maturity of females is reached in approximately one year.

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43771. ATKINSON, D. J. The occurrence of chloritoid in the Hecla Hoek Formation of Prince Charles Foreland, Spitsbergen. (Geological magazine, Jan.-Feb. 1956. v. 93, no. 1, p. 63-71, illus., text map.) 12 refs.

In the Hecla Hoek rocks of Prins Karls Forland (78°30′ N. 11° E.) "field evidence indicates that chloritoid has developed only where conditions of extreme stress have affected pelitic rocks of a

certain type. Microscopic examination confirms that many of the chloritoid-bearing rocks are extremely strained, and demonstrates that growth of the mineral was contemporaneous with movement. The distribution of chloritoid is in complete discordance with the pattern of regional metamorphism."—Author's abstract. Based on writer's field work during three expeditions to Svalbard, 1950–1953, cf. No. 27893, 38606.

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43772. ATUAGAGDLIUTIT. GRØN-LANDSPOSTEN. Grønlands nye skov er blevet til i Hørsholm. (Atuagagdliutit: Grønlandsposten, June 28, 1956. Ukiut 96-iat, nr. 13, p. 6, port.) Text in Danish. Title tr.: Greenland's new forest has come into being at Hørsholm.

Research was carried out at the Hørsholm arboretum in Denmark to find tree species suitable for afforestation work in Greenland; 50,000-100,000 trees, mainly spruce, Siberian larch and birch, are now planted, and a few other species, aspen, willow, etc. found possibly suitable also.

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43773. AUBERT DE LA RÜE, EDGAR. Premiers résultats d'une traversée de la Péninsule d'Ungava, Labrador canadien. (Société géologique de France. Comptes rendus, 1948. no. 13–14, p. 272–74.) 2 refs. Text in French. *Title tr.:* First results of a traverse of Ungava Peninsula, Canadian Labrador.

Contains geological observations made by the author on an expedition led by J. Rousseau, July-Aug. 1948. Party crossed Ungava Peninsula eastward from the Hudson Bay coast via the Kogaluk and Payne Rivers to Ungava Bay. Highly metamorphosed and strongly granitized rock, occupying about four-fifths of the breadth of the peninsula, are probably Archean. In the east, bordering Ungava Bay, a band of less deformed rocks represent the Algonkian. Petrology is briefly described. Typical granites are very rare or absent. Copy seen: DGS.

43774. AUKRUST, ODD. Forelesninger om norsk jordbrukspolitikk. Oslo, Universitets studentkontor, 1952. 186 p. Mimeographed. Text in Norwegian. Title tr.: Lectures on Norwegian agricultural policy.

North Norway is treated specifically in statistics on agriculture as occupation (p. 14), in consideration of the agriculture versus the fishing economy (p. 16),

natural conditions (p. 32), size of farms (p. 35), modernization (p. 52), etc. Further data on the North are given in: recent trends in increase of agricultural land (p. 24), newly cultivated land (p. 130), and the status of agricultural insurance (p. 147). Copy seen: DLC

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43775. AURORA, ELIO d'. Tra renne e Lapponi, dall' Italia al Capo Nord. Torino, Società editrice internazionale, 1955. 310 p. illus., col. plates. Text in Italian. Title tr.: Among reindeer and Lapps, from Italy to Nordkap.

Includes (p. 255-96) a chronicle of the author's railroad trip across Lapland with stop-overs at Kiruna, Narvik and Harstad. Landscape and travel impressions, the iron mines at Kiruna and the port of Narvik are described, and some problems of post-war economy discussed.

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43776. AUSTIN, JAMES MURDOCH, 1915—, and S. L. HENSEL. Analysis of freezing precipitation along the eastern North American coastline. Lexington, Mass., Massachusetts Institute of Technology, Lincoln Laboratory, Mar. 23, 1956. iii, 46 p. illus., diagrs., text maps, tables. (Its: Technical report no. 112) 7 refs.

Freezing precipitation was studied from Thule, Greenland to Nantucket, Mass. to provide a basis for the design of thermal anti-icing equipment for large rigid radomes. Monthly summaries of meteorological reports were utilized for six representative stations selected for detailed study (Gander, Cape Harrison, Frobisher, Yarmouth, Thule and Nantucket.) Data. representing three to four years' observations from each station were analyzed: (1) range of precipitation rates for freezing rain and snow, and the freezing and duration of such rates; and (2) wind speed and temperature regimes accompanying such rates. The geographical extent of such storms was also studied. The Newfoundland peninsula has the greatest frequency and highest rates of rain and drizzle. They practically never occur at Thule. cipitation rates decrease toward the Pole. Appended are calculation of icing rates; analysis of climatic data at Thule, Frobisher, Cape Harrison, Yarmouth, and Nantucket; effect of snow density on accumulation rate; and an abstract of a report entitled "Wet snow precipitation along the northeastern American coastline." Copy seen: DBS. AUSTIN, JAMES MURDOCH, 1915—, see also Massachusetts Institute of Technology. Dept. of Meteorology. A report . . . climatology . . . North Atlantic. 1942. No. 46654.

43777. AUSTIN, T. Norske planteskoler 1950. (Norske skogplanteskoler. Årsskrift, 1950. p. 109-112, plate.) Text in Norwegian. *Title tr.:* Norwegian forest nurseries, 1950.

Gives name, address, ownership, manager, elevation, potential productive area, area in trees in 1949, number of trees, yearly production, and possibilities for increase for the forest nurseries, including ten in arctic Norway.

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43778. AVDEEV, N. fa. Pavil'on "Okhota, zverovodstvo i sobakovodstvo" na VSKhV v 1955 g. (Rafsionalizafsifa okhotnich'ego promysla, 1956, vyp. 5, p. 123–28, illus.) Text in Russian. Title tr.: The Hunting, Fur Farming and Dog Breeding Pavilion of the All-Union Agricultural Exhibition, 1955.

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Describes the pavilion and notes lectures and discussions held for visitors. Hunters, fur farmers, also reindeer- and dog-breeders of Yakutia and Arkhangel'sk Province participated, and their plans to raise production are mentioned.

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43779. AVERILL, ROBERT G. Problems of Alaska's transport system and their effect on the economy of Alaska and its people. [Hanover, N. H.], May 1955. 27 p. Typescript. 12 refs.

Paper prepared for Arctic Seminar at Dartmouth College in 1955. Air, sea, and land transport also living costs are considered in light of the U. S. Government's maintenance of Alaska for defense purposes. Alaska's economic future depends on commercial services superseding military dominance of transport on termination of present "defense policy," release of Alaska Railroad to private interests, construction of various highways and railroads in key areas, release of much public domain to private ownership, statchood. Copy seen: CaMAI.

**43780.** AVIATION ENGINEER NOTES. An engineer job in the Aleutian Islands. (Aviation engineer notes, Aug. 1943. no. 14, p. 4-6, illus.)

Contains description of construction of a two-runway airfield on one of the islands

in the Aleutian chain in 1942 by an Aviation Engineer battalion.

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43781. AVRAMENKO, IL'ÎA. Ogni Angary; vpechatleniîa i vstrechi. (Zvezda, Aug. 1956, no. 8, p. 118–29.) Text in Russian. *Title tr.:* Lights on the Angara; impressions and encounters.

Journalist's notes on a trip from Irkutsk to the Padunskiye Rapids on the Angara River: landscape, towns (Angarsk, Malyshevka, Balagansk, Zayarsk, Bratsk, Padunskoye); plans for construction of a "cascade" of hydroelectrical stations on the Angara; meeting workers, engineers, local officials, etc. Copy seen: DLC.

43782. AVRORIN, NIKOLAŤ ALEK-SANDROVICH, 1906 - Botanicheskie raboty v Khibinskikh gorakh. (In: Fersman, A. E. Za polížrnym krugom, 1932. p. 69-72, illus.) 7 refs. Text in Russian. Title tr.: Botanical investigations in the Khibiny Mountains.

Study of Kola Peninsula flora is reviewed, from the investigations of A. O. Kihlman (Kairamo), a participant of the Finnish Kola Expedition, 1887–1892, to the work of the botanical team of the Academy of Sciences' Kola Expedition, headed in 1930 by S. S. Ganeshin and in 1931 by the author. The foundation and work of the Polar Alpine Botanical Garden at Kirovsk, initiated by the author, is outlined. References in footnotes

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43783. AVRORIN, NIKOLAĪ ALEK-SANDROVICH, 1906—. Geobotanicheskafā karta Khibinskogo rafona. (*In:* Khibinskie apatity, 1933. t. 6, p. 255— 56, map.) Text in Russian. *Title tr.:* Geobotanical map of the Khibiny region.

Botanical studies were initiated in 1887 by W. Ramsay's expedition and continued by others in specific localities. Only in 1933 was a general map prepared, by Kachurin and Korovkin, indicating various vegetation belts, including alpine and subalpine types, concentrated forests, marshlands, etc. Copy seen: DGS.

43784. AVRORIN, NIKOLAĬ ALEK-SANDROVICH, 1906– . Pereselenie rasteniĭ na poliârnyĭ sever; ėkologogeograficheskiĭ analiz. Moskva-Leningrad. Izd-vo Akademii nauk SSSR, 1956. 286 p., illus., maps, tables (Akademiiâ nauk SSSR. Kol'skiĭ filial imeni S. M. Kirova. Poliârno-alpiĭskiĭ botanicheskiĭ

sad). About 500 refs. Text in Russian. Title tr.: Introduction of plants into the arctic North; an ecological-geographic analysis.

First of a series called "Activities of the Polar-Alpine Botanical Garden in introduction of plants and verdure" and covering the acclimatization work of this institution in the last quarter of the century. Successive chapters of the present study deal with the statement of problems and basic concepts, location and conditions of investigations (p. 11-29); description of plants studied, their origin and ecological-geographic peculiarities (p. 30-115); fertility as sign of successful acclimatization (p. 116-52) with descriptions and lists of forms successfully introduced: evaluation of acclimatization success from the regularity of reproduction (p. 153-81); growth and developmental rhythms in the introduced plants and changes in growth and rhythmicity (p. 182-218); morphological changes during acclimatization (p. 219-37). Appendices list Russian and Latin names of the plants studied, 1000 forms. Copy seen: DLC.

43785. AVRORIN, V. O chem rasskazyvaet dissertatsiia. (Neva, Apr. 1956, no. 4, p. 189, port.) Text in Russian. *Title tr.:* What is told by a dissertation.

Biographical sketch of the Nanai (Golds - southern Tungus) philologist, Sulungo Onenko, and review of his richly documented dissertation: "The development of the lexical content of the Nanai language in the Soviet period."

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43786. AVSIŪK, GRIGORII ALEK-SANDROVICH. Temperatura l'da v lednikakh. (Akademia nauk SSSR. Institut geografii. Trudy, 1956. vyp. 67, p. 63–141, diagrs., tables, map.) 80 refs. Text in Russian. *Title tr.:* Glacier ice temperature.

"Physical processes in glacier ice and external factors influencing ice temperature are analyzed in detail on the basis of investigations since 1841 and new data obtained in Tien Shan glaciers in 1948–1950. Hypotheses proposed to explain ice temperature variations are discussed. Principal factors affecting ice temperatures are: air temperature, solar radiation, the intensity and metamorphism of solid precipitation, melt-water penetration of firn, and conditions of glacier movement. Glacier ice with structure

intact shows a penetration depth of about 1 m. for daily temperature variations and from 15-20 m. for annual variations. Ice fissures and meltwater permit deeper penetration of heat. thermal classification scheme for the glaciers of the world based on the analysis is proposed, distinguishing five principal types."-SIPRE. Temperature data of glaciers in Greenland (measurements by Drygalski, Koch, Wegener, Sorge, Jülg, Oxford University Expedition, Ahlmann, Victor), in Svalbard (Fjelstad, Sverdrup, Glen, Moss), in Yukon Territory (Sharp) and Baffin Island (Baird) are included and discussed; but not of glaciers in the Soviet Arctic: Franz Joseph Land. Novaya Zemlya, Severnaya Zemlya, etc. Copy seen: DLC.

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43787. AVTOMOBIL'NYĬ TRANS-PORT. Obespechit' besperebolnuû perevozku gruzov i passazhirov zimol. (Avtomobil'nyl transport, Nov, 1956. god 34, no. 11, p. 1-3.) Text in Russian. Title tr.: Provisions for uninterrupted passenger and freight transportation during winter.

Editorial appeal to keep automotive transportation moving under severe winter conditions. Attention is called to methods for cold starting of engines by preheating of water, air, and lubricants. Installation of boilers at road stations and of central heating systems in repair shops and waiting rooms is urged; also improved protection against snow drift: early installation of fences, etc. Sand and slag supplies, also snow removing machinery should be posted for regular use along the road not just after snow storms.

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43788. AXELROD, ROBERT, and D. E. BASS. Electrolytes and acid-base balance in hypothermia. (American journal of physiology, July 1956. v. 186, no. 1, p. 31–34, tables.) 9 refs.

Study of plasma electrolytes in dogs made hypothermic to 38°, 28°, and 25° C. A 'cold acidosis' was observed which is largely attributable to temperature-dependent, physico-chemical factors related to the buffer systems. Plasma pH in hypothermia was easier reduced by slight respiratory depression than at normal body temperature.

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43789. B., M. P. L'Università dell'-Alaska. (Universo, July-Aug. 1956. Anno 36, n. 4, p. 660-61.) Text in Italian. Title tr.: The University of Alaska.

Contains note on white population growth in Alaska during and after World War II, development of natural resources; favorable position of the University for study of Eskimo and Indian ethnology, zoology, mineral resources, northern agriculture; arctic research and exploration by students on the arctic coast, Mt. McKinley, down the Yukon River.

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**43790.** BAADE, ROBERT T. A look at the sport fishery of southeastern Alaska. (*In:* Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 89.)

Abstract of paper concerning fishing pressure, stocking barren lakes, utilization of fishes other than trout, etc.

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43791. BAARDSETH, EGIL, and A. HAUG. Individual variation of some constituents in brown algae, and reliability of analytical results. Oslo, 1953. 23 p. 7 tables. (Norsk institutt for tangog tareforskning. Report no. 2.) Summary in Norwegian.

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Investigation of the water, ash, and alginic acid content of the brown alga, Laminaria digitata, collected in Lofoten, Norway. shows variation from one plant to another in the same collection. Such factors as depth, latitude, or time of year are influential, as may be age, and stage of development. External and experimental errors are considered, and suggestions made for effective study.

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43792. BAARDSETH, EGIL. Kvantitative tare-undersøkelser i Lofoten og Salten sommeren 1952. Oslo, 1954. 47 p., 5 text maps, 11 tables. (Norskinstitutt for tang- og tareforskning. Report no. 6.) Text in Norwegian. Title tr.: Quantitative seaweed investigation in Lofoten and Salten in the summer of 1952.

Two species of Laminaria were investigated in several localities on the north Norwegian coast. Variations in density, volume, growth, and length of plants from place to place is cited. Relations between occurrence and physical conditions at certain localities are noted.

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**43793.** BAARDSETH, EGIL. A statistical study of the structure of the *Ascophyllum* zone. Oslo, 1955. 34 p. 12

tables. (Norsk institutt for tang- og tareforskning. Report no. 11.) 9 refs. Summary in Norwegian.

Quadrat sampling of the Ascophyllum zone was done experimentally in six localities along the northwest and north coast of Norway as a means of determining the best method to use in estimating seaweed supply and establishing uniform methods of survey. Statistical method is emphasized but ecological conditions and occurrence of several other seaweed species are considered.

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43794. BÅTH, MARKUS, 1916— . An earthquake catalogue for Fennoscandia for the years 1891–1950. Stockholm, 1956. 52 p. table, map. (Sweden. Geologiska undersökning, Ser. C, no. 545, årsbok 50 (1956), no. 1.) About 80 refs.

Lists all known earthquakes and cites sources of the macroseismic data. The data include origin time and location of the epicenter with estimate of their accuracy, maximum intensity, limit of perceptibility in km. and magnitude. Stronger and weaker shocks are tabulated separately for each year, the former regarded as a basis for research and the latter a complement. A geographical and magnitude index is appended.

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43794A. BÅTH, MARKUS, 1916—. The problem of microseismic barriers with special reference to Scandinavia. (Geologiska föreningen, Stockholm. Förhandlingar, 1952. bd. 74, häfte 4, no. 471, p. 427–49, 4 diagrs., 4 tables.) 20 refs.

Irregular distribution of energy in microseisms has led to postulation that variations are caused by barriers, possibly faults, in their pathway. Investigation was made of the effects of the fault at the edge of the northwest European continental shelf. Extending from west of Spitsbergen toward the British Isles, the fault approaches the west Norwegian coast near the Lofoten islands and again in the south, but between these two locations lies farther off-coast. Records from Bergen, where the seismograph station is on hard gneiss, from Upsala, where it is on granite, both on the Scandinavian shield, and from Copenhagen, where the station is on chalk outside the shield, indicate that microseismic waves induced by passage of cold fronts over the fault are less energetic than those induced by passage over the coast. It is possible that this fault, which may be a single breech in structure, is insufficient to produce barrier effects. Other considerations are introduced.

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43795. BÅTH, MARKUS, 1916—. Travel times of the principal earthquake waves for Uppsala. Uppsala, Almqvist & Wiksell, 1947. p. 105–129, fold. map, tables. (Upsala. Universitet. Meteorologiska institutionen. Meddelande, nr.

11.) 14 refs.

Records of 315 earthquakes occurring in the period 1913–1943, in which the epicenter was probably located within 2° of arc, were studied to determine travel times to Upsala (59°51′29" N. 17°37′37" E.). Resulting travel times for various wave phases are tabulated. Possible errors in the observations are discussed.

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BABAKHANOV, P. B., see Gerburt-Gelbovich, A. V., and P. B. Babakhanov. Moduli deformatsii zasolennykh gruntov. 1955. No. 45079.

BABBOTT, FRANK L., Jr., see Babbott, J. G., and others. Arctic environment and intestinal infection. 1956. No. 43796.

43796. BABBOTT, JOAN G., and others. Arctic environment and intestinal infection. (American journal of the medical sciences, Mar. 1956. v. 231, no. 3, p. 338-60, illus. tables, map.) 94 refs. Other authors: F. L. Babbott, Jr., and J. E. Gordon.

A comprehensive study introduced by information on natural resources, population, military aspects, trade, transport, The successive sections deal with concepts of arctic epidemiology; disease behavior in arctic and temperate zones; demography of the Arctic; its geography, climate and environment; permafrost, water supply and sanitation; effect of cold environment on man and his diseases; biological environment (including food supply, animal vectors and reservoirs); social environment, including housing, hygiene, population mobility, etc. These sections are followed by information on acute intestinal infections in the Arctic and sub-Arctic generally and in Alaska particularly and on field work in intestinal Copy seen: DNLM. diseases.

43797. BABCOCK, ERNEST BROWN. Youngia americana, a new species of phyletic significance. (Madroño, Jan.

1951. v. 11, no. 1, p. 1-6, 2 illus., table.) 2 refs.

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Contains a Latin diagnosis and English description of a single specimen collected in 1950 by R. M. Chapman along the Kukpowruk River in northwest Alaska (68°30′-69°30′ N.). A synoptical comparison is presented of 11 morphological features and one anatomical character of Y. americana and those of Soroseris and Youngia, genera hitherto restricted to Asia in natural distribution. The plant is also reminiscent of Crepis nana typica in its tufted habit and dark green, glabrous foliage.

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43798. BABENKO, ALEKSEĬ, and V. MEL'NIKOV. Vertolety nad Severnym polítisom. (Kryl'fa rodiny, Feb.-Mar. 1956. god 7, no. 2, p. 18-19; no. 3, p. 18-19, illus., ports.) Text in Russian. Title tr.: Helicopters over the North Pole.

Sketches by two helicopter pilots of their work with drifting stations "North Pole-3" (Babenko) and "North Pole-4" (Mel'nikov) in 1954 and 1955: their departure from Moscow on May 20, and flight via Arkhangel'sk, Nar'yan-Mar and Amderma to Dikson; thence the one to Cape Shmidta, Vrangel Island and North Pole-4; and the other over the Arctic Basin to North Pole-3. The helicopters taxied equipment and supplies from landing strip to camp; carried out research flights in the vicinity, helped in emergencies caused by ice pressure in winter, rescued a Chukchi hunter, etc. Both helicopters were built under the direction of M. L. Mil'.

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**43799. BABERO, BERT BELL.** Some helminth parasites of Alaskan beavers. (Journal of parasitology, Dec. 1953. v. 39, no. 6, p. 674–75.)

Notes on helminths recovered from 44 infected animals from various regions of the country. Three species comprise the helminth fauna studied; none of them apparently pathogenic.

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43800. BABERO, BERT BELL. Studies on the helminth fauna of Alaska, 16; a survey of the helminth parasites of ptarmigan Lagopus spp. (Journal of parasitology, Oct. 1953. v. 39, no. 5, p. 538–46, illus., table, map.) 18 refs.

A description of five species of nematodes, two of trematodes and four of cestodes found in 109 infected birds from all over Alaska. Willow, rock, and whitetailed ptarmigan were examined, including their blood. Descriptions give location of find, earlier records, if any, geographic distribution, related forms, etc. **Copy seen:** DNLM.

BABERO, BERT BELL, see also Rausch, R. L., and others. Studies . . . helminth fauna of Alaska, 27 . . . larvae of Trichinella spiralis . . . 1956. No. 47529.

BABERO, BERT BELL, see also Thomas, L. J., and B. B. Babero. Some helminths of mammals . . . St. Lawrence Island . . . 1956. No. 48371.

BABERO, BERT BELL, see also Thomas, L. J., and B. B. Babero. Studies on rodent echinococcosis. 1956. No. 48372.

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43801. BABINEAU, LOUIS MARIE. Influence de l'alimentation et de la température sur quelques constantes biologiques du rat blanc, 3; résultats des cinquième et sixième expériences. (Laval médical, June 1956. v. 21, no. 6, p. 836–54.) 137 refs. Text in French. Title tr.: The influence of nutrition and of temperature on some biological constants of the white rat, 3; results of the fifth and sixth experiments.

Account on determinations of residual glycogen in the liver and body of cold-acclimatized animals after a 24 hr. fast; rate of glucose absorption and of glycogen deposition in the liver and body of such animals, and similar values for conditions following intraperitoneal administration of glucose. Differences resulting from fat-rich and glucose-rich diets, from different avenues of absorption, etc., are discussed.

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43802. BABKOV, V. F. Metody opredelenia raschetnykh znachenii modulei deformatsii gruntov. (In: Moskva. Avtomobil'no-dorozhnyi institut. Opredelenie modulia deformatsii gruntov, 1955. p. 5–16, diagrs., graphs.) Text in Russian. Title tr.: Methods of determination of rated values of moduli of soil deformation.

"Modulus of deformation" (proportionality) is represented by the ratio of specific load (P) and load area (A) to depth of deformation (C). The rated values of deformation are determined experimentally for different types of soils under different conditions. The effects of natural conditions are discussed, includ-

ing the effects of wet and frozen soils and their seasonal changes. Laboratory and field load-deformation tests and recalculation of the modulus in theoretical formulas using measured deformation are included. Strain is recomputed for good and damaged old road surfaces and proper adjustments are made to the basic tables. Systematic observations of the road conditions must be made by special stations located in different zones.

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43803. BABLŪK, BORIS TIMOFEE-VICH, 1921—. Kogda na termometre minus 40. (Ogonëk, Feb. 1956. god 34, no. 6, p. 24, illus., col. plates.) Text in Russian. *Title tr.:* When the thermometer is at minus 40.

Notes development of Yakutsk and construction of large stone buildings: Branch of the Academy of Sciences, surgical section of the hospital, houses, theater, etc. Difficulties posed by permafrost (ground swelling under foundations), overcome by using reinforced piles. Photographs by IA. Rûmkin.

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43804. BABLŪK, BORIS TIMOFEE-VICH, 1921- . Na beregakh Leni; list z Ākutiī. (Ukraīna, Nov. 1956, no. 21 (180), p. 10, illus.) Text in Ukrainian. Title tr.: On the Lena River; a letter from Yakutia.

Journalist's account of a winter trip (day and a half from Moscow by air) to Yakutsk; its modern streets, three-story brick houses on reinforced concrete piles, a large building for the Yakutsk Branch of the Academy of Sciences, etc., are noted, with photographs (by ÎÂ. Rûmkin) of the main street, airport, chemical laboratory, etc. Copy seen: DLC.

43805. BACKHAUSEN, F. Eisbrecher in arktischen Gewässern. (Seewart, Apr. 1953. Bd. 14, Heft 2, p. 24–25.) Text in German. *Title tr.:* Ice-breakers in arctic waters.

Contains brief discussion of Soviet and American ice-breakers. At least 40 are said to be used by the U. S. S. R. in arctic waters, one of the largest, the Iosif Stalin, and four others are of an 11,000-ton class; three of 12,000 and one of 24,000 ton are being built. Features of the Ermak, the first large ice-breaker, built in 1898, are described. Brief descriptions are given of the American ice-breakers, Northwind, Burlon Island, and Edisto.

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43806. BACKHOUSE, K., and H. R. HEWER. Delayed implantation in the grey seal, *Halichoerus grypus* Fab. (Nature, London, Sept. 1956. v. 178, no.

4532, p. 550, illus.) 3 refs.

Observations on the ovaries of two cows and testes of three bulls as well as the presence of a free blastocyst in one of the females leads the authors to the conclusion that delayed implantation takes place in this species. Similar conditions were recorded by others in the harbor seal and the elephant seal.

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43807. BACKLUND, HELGE GÖTRIK, 1878—. Die ältesten Baueinheiten von Fennoskandia; ein Beitrag zur Deutung des "Urgebirges." (Naturforschende Gesellschaft, Schaffhausen. Mitteilungen, 1941. Bd. 17, p. 31–73, fold. map, tables.) 19 refs. Text in German. Title tr.: The oldest structural units of Fennoscandia; a contribution to the interpretation of the "basement rocks."

Fennoscandia includes the Scandinavian peninsula, Finland, Russian Karelia, and Kola Peninsula. Structural units are noted. Author deals in turn with the absolute time scale as opposed to the geologic-biological (paleontological) time scale; the differentiation hypothesis and Precambrian mountain building; role of metasomatism and granitization; petroscandian orogens; the secular continental elevation.

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43808. BACKMAN, A. L. Najas tenuissima (A. Br.) Magnus, einst und jetzt. Helsinki, 1950. 36 p., 2 illus., 22 diagrs., 5 text maps, table. (Finska vetenskapssocieteten. Commentationes biologicae, t. 10, no. 19.) 50 refs. Text in German. Title tr.: Najas tenuissima (A. Br.) Magnus, past and present.

Includes reference to post-glacial finds of Najas flexilis (a pond weed) in arctic Finland, outside the distribution area of N. tenuissima.

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**43809.** BACKUS, RICHARD H. New and rare records of fishes from Labrador. (Copeia, Dec. 28, 1951, no. 4, p. 288–94.) 19 refs.

Contains notes and distributional data on 12 species of fishes collected during the Blue Dolphin Expedition of 1949–1950, along the coast of Labrador from Forteau Bay north to Hebron Fjord. All records represent extensions of known range, or are verifications of limited or doubtful past records. Some fresh-water collections were also made in the vicinity of Northwest River and Lake Melville. *Copy seen:* DLC.

**43810.** BADEER, HENRY. Effect of hypothermia on oxygen consumption and energy utilization of heart. (Circulation research, Sept. 1956. v. 4, no. 5, p. 523–26, illus. table.) 11 refs.

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Account of investigations on a dog preparation where the work of the heart is kept constant. Hypothermia produced a fall in 0<sub>4</sub>-uptake which, between 36° and 26° C. showed a logarythmic relationship, with a Q<sub>10</sub> of 1.83. The decrease in oxygen consumption is attributed to at least two factors: effect of cold on metabolic rate of the myocardium and to bradycardia. *Copy seen:* DNLM.

BADER, HENRI, 1907—, see Diamond, M. Studies on vehicular trafficability of snow . . . 1956. No. 44617.

BADER, RICHARD ARTHUR, 1922—, see Stein, H. J., and others. Physiological reactions to cold . . . acclimatization to heat. 1948. No. 48190.

43811. BADIGIN, KONSTANTIN SER-GEEVICH. Po studenym morfam [Ocherki po istorii ledovykh plavanii russkikh pomorov]. Moskva, Gos. izd-vo geogr. lit-ry, 1956. 423 p. illus., tables, maps. Over 250 refs. Text in Russian. Title tr.: On the arctic seas [Sketches of the history of the polar voyages of the Russian Pomors].

Russian expansion toward the North began in the 10-11th centuries, from Novgorod. Adventurers, attracted by the abundance of fur animals and fish, followed the waterways to the White Sea, and settlers on this seacoast became known as "Pomors." The Pomors adapted their vessels to arctic seas, entered the Barents Sea, and discovered Spitsbergen and Novaya Zemlya. They sailed along the north coast and, long before Dezhnev and Popov, reached the northeast limits of Asia and penetrated to northwestern America. Russian arctic navigation flourished during the 13-15th centuries, came to a standstill in the 17th, and later declined. Readers are cautioned (p. 5-6) that this outline of the early Russian voyages lacks documentation, is based on the author's conjectures, hypotheses, etc., and on philological data. Though accessible to criticism, the views advanced by this notable arctic explorer, may induce further, conclusive investigations. Of special interest is his account of sealing and ice conditions in the White Sea (p. 27-42); the maritime route to Mangazeya (p. 123-45); early Russian shipbuilding and Pomor vessel types: lod'ia, koch, shniaka, karbas (p. 171-207). The 15th century voyages of a Russian sailor, Ivan Novgorodets (Ivan Olegovich Amosov), from the White to Baltic Sea and to the River Ob', are recounted from copies of a lost manuscript of doubtful authenticity (p. 100-122). Appended is an extensive bibliography; a glossary of Russian arctic navigational terms, with 22 refs. (p. 318-416); and (p. 417-23) the text of an early regulation on internal arrangements of Pomor hunting parties Copy seen: DLC. or arteli.

43812. BAEDEKER, KARL, firm, publishers, Leipzig. Norwegen, Dänemark, Island, Spitzbergen; Handbuch für Reisende. 14. Aufl. Leipzig, K. Baedeker, 1931. 512 p. maps inel. fold. maps. Text in German. Titte tr.: Norway, Denmark, Iceland, Spitsbergen; handbook for travelers. 14th ed.

Coverage of Norway includes description of journey from Trondheim to Namsos and Mosjøen by land; by sea from Trondheim to Bodø, Lofoten, Vesterålen, Tromsø, Nordkap, and Kirkenes; by land from Bodø to Narvik and beyond. Information is given on accommodations, regulations, recreation, clothing needs, language, geographic names, and history. Section on Svalbard (p. 466–74 and map) describes features visited by tourist vessels.

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43813. BAER, JEAN GEORGES, 1902-

. Parasitic helminths collected in West Greenland. København, C. A. Reitzel, 1956. 55 p. illus., tables. (Meddelelser om Grønland. Bd. 124, nr. 10.) 52 refs.

Contains a study of helminths collected in the Godhavn region (69°15′ N. 53°32′ W.) while the author was at the Danish Arctic Station, mostly from birds, but five species from fish. Brief ecological notes are followed by a list of hosts and their parasites, then by descriptions (some detailed) of 28 species, including four new species and two new genera.

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43814. BAER, KARL ERNST von, 1792– 1876. Vergleichung eines von Herrn Obrist Hofman mitgebrachten Karagassen-Schädels mit dem von Herrn Dr. Ruprecht mitgebrachten Samojeden-Schädel; lu le 31 mai 1844. (Akademiña nauk SSSR. Bulletin, Classe physicomathématique, 1845. t. 3, no. 12, p. 177–87) ref. in text. Text in German. Title tr.: Comparison between a Karagass skull brought back by Colonel Hofman and a Samoyed skull brought back by Dr. Ruprecht; paper read May 31, 1844.

Discusses and compares the cranial and facial structures of Samoyeds, Finns, Lapps, Aleuts, Greenland and Bering Strait Eskimos, Buryats and Karagass. The differences between Lapp and Samoyed and analogies between Samoyed and Eskimo skulls are stressed. The divergencies between the Karagass and Buriat skulls are noted and the former, though shorter and flatter, likened to those of the Samoyeds. An Eskimo-Samoyed branch of the Mongolian race is suggested.

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BAER, KARL ERNST, von, 1792–1876, see also Tsivol'ka, A. K. Plavanie . . . v 1837 godu. 1845. No. 48486.

43815. BAETS, MAURICE de, 1863–1931. Mgr. Seghers, l'apôtre de l'Alaska. Paris, Poitiers, Oudin, 1896. xeii, 237 p. port. English translation by Sister Mary Mildred, S. S. A., pub. as: The apostle of Alaska; life of the Most Reverend Charles John Seghers. Paterson, N. J., St. Anthony Guild Press, 1943. 292 p. illus., ports., text map.

Account of the life and work of this Roman Catholic missionary, born at Ghent, Belgium, in 1839. He was sent to Vancouver Island in 1863 and became Bishop in 1873. His work there and in Oregon (as Archbishop) from 1863 to 1886 is described; also his five missionary journeys to the Indians of southeastern and southern Alaska. He was assassinated in 1886.

Copy seen: DLC (English translation).

BAHAN, W. G., see Stelck, C. R. and others. Middle Albian Foraminifera . . . 1956. No. 48194.

43816. BAILEY, ALFRED MARSHALL, 1894 . The bean goose and other birds from St. Lawrence Island, Alaska. (Auk, Oct. 1956. v. 73, no. 4, p. 560.)

Contains a simple list of seven birds obtained in 1951-53 by the Eskimos living near Savoonga, including a specimen of Anser fabalis serrirostris. The

specimens are deposited at the Denver Museum of Natural History.

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43817. BAILEY, E. G. Index of surfacewater records to September 30, 1955: Alaska. Washington, D. C., 1956. 10 p. (U. S. Geological Survey. Circular 396.)

Lists streamflow and reservoir stations in Alaska, for which records are published in reports of the U. S. Geological Survey. Stations for the Southeast and the area west of 141° W. are listed in downstream direction, (tributaries included) and for each, the drainage area (sq. mi.) and period of record are given. Alphabetical index of streams, canals and reservoirs is appended.

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43818. BAILEY, W. B., and others. The horizontal distribution of temperatures and salinities off the Canadian Atlantic Coast. St. Andrews, N. B., Aug. 1954. 21, 18 p. 16 text charts. (Canada. Joint Committee on Oceanography. Atlantic Oceanographic Group. Report no. 27.) 16 refs. Other authors: W. Templeman and R. P. Hunt.

Contains results of seasonal oceanographic surveys, Aug. 1950–1952, by the Newfoundland Fisheries Station in Labrador Sea and Grand Banks region, and by the Atlantic Oceanographic Group in region to the south. General circulation of Canadian Atlantic water, the courses of the Labrador Current and Gulf Stream are described. Charts, with brief discussion, show temperature and salinity distribution at three levels (0, 50, and 100 m.) for Aug. 1950 and 1952, and of temperatures alone in 1951.

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BAILEY, W. B., see also Canada. Joint Committee on Oceanography. Annual reports . . . 1955–56. 1956. No. 44266.

43819. BAILLIE, JAMES L. On the spring flight of blue and snow geese across northern Ontario. (Canadian field-naturalist, Oct.-Dec. 1955. v. 69, no. 4, p. 135-39, text map.) 3 refs.

Character and exact route of the great flight of Chen caerulescens and Chen hyperborea from Manitoba to James Bay is discussed. Observations of Mr. Clarence Watson, while stationed at Rat Rapids during 1938-1943, are cited. Copy seen: MH-Z.

BAIN, GEORGE WILLIAM, 1901-, see Thompson, T. G., and K. H. Nelson.

Concentration brines and deposition salts sea water. 1956. No. 48380.

BAIRD, IRENE, see Northern affairs bulletin. 1956- in progress. No. 47091.

43820. BAIRD, PATRICK DOUGLAS, 1912 - The Arctic Institute of North America. (Polar record, Jan. 1956. v. 8, no. 52, p. 22-23.)

Brief description of the Institute's establishment in 1945; its offices in Montreal, New York and Washington; its officers, governors, membership, etc.; its own research projects, and sponsorship of such generally. Its publishing, teaching and informational activities; also its stress on international cooperation, are noted. Writer was Director of the Montreal Office 1947–1954.

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43821. BAKAKIN, V. P. Led v kachestve materiala dlía zakladki vyrabotannogo prostranstva. Moskva, Izd-vo Akademii nauk SSSR, 1955. 83 p., illus., graphs, diagrs. (Akademiía nauk SSSR. Institut merzlotovedeniía.) 14 refs. Text in Russian. Title tr.: The use of ice filler in abandoned mine shafts.

The use of ice and iced waste rock materials is considered for filling empty shafts, slopes and tunnels in coal or ore mines to prevent fall of overhead rock and explosion of accumulated combustion The physical and mechanical gases. properties of ice are described and compared with those of other construction materials. Data on the properties of fossil, river, and naled ice are tabulated. Investigations at the Institute of Permafrostology showed that the adfreezing strength of ice on wood and concrete exceeds at low temperatures that between rock and soil particles. Successful experiments in the use of ice for filling abandoned spaces at several places in the U. S. S. R. are described in detail. The shaft, etc., was packed with ice blocks, or flooded and the water frozen by cold air circulation, or both methods were used alternately. Various systems of water and air supply and tunnel arrangements are described and heat exchange computed for specific conditions of northern regions. Copy seen: DLC.

BAKER, D. G., see Haist, R. E., and others. Effect . . . cold acclimatization in rats shocked . . . 1956. No. 45386.

43822. BAKER, FRANK COLLINS, 1867–1942. New species of Lymnaeidae from British America. (Washington Academy of Sciences. Journal, Nov. 15, 1933. v. 23, no. 11, p. 520–23, illus.)

Contains descriptions and measurements of Stagnicola kennicotti n. sp. from Bernard Harbour, near Coronation Gulf, Mackenzie District, and S. palustris ungava n. subsp. from Fort Chimo, Labrador. Copy seen: DLC.

BAKER, FRANK COLLINS, 1867-1942.
see also Franzen, D. S. Types of mollusks
... Baker, part I ... 1956. No.
44957.

43823. BAKER, PAUL T., and others. Relationship between skinfold thickness and body cooling at 59° F. Natick, Mass., July 1955. 21 p. illus., tables. (U. S. Quartermaster Corps. Environmental Protection Research Division. Technical report EP-14.) 17 refs. Other authors: R. F. Byrom, F. Daniels, and E. H. Munro.

Account of observations on men exposed for two hours to 15° C. Fat, as measured by skinfold thickness, showed a strong relationship to both skin and rectal temperatures, the fat subjects maintaining near normal temperatures in the cool environment. But fat men showed generally lower skin temperatures. All these conditions indicate that skin fat acts as an effective insulator.

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43824. BAKER, PAUL T., and F. DANIELS, Jr. Relationship between skinfold thickness and body cooling for two hours at 15° C. (Journal of applied physiology, Jan. 1956. v. 8, no. 4, p. 409–416, illus., tables.) 13 refs.

Contains a study of the correlation between skinfold thickness and rectal and skin temperatures when exposed to 15° C. Fat was found to act as an insulator; fat men showed higher rectal temperatures, but lower skin temperatures than thin men. Copy seen: DLC.

43825. BAKHRUSHIN, SERGEĬ VLADIMIROVICH, 1882–1950. Agenty russkikh torgovykh lûdel xvii v. (In his: Nauchnye trudy, t. 2, pub. 1954. p. 134–53.) Approx. 20 refs. Reprinted from: Uchenye zapiski Instituta istrii RANION, t. 4, Moskva, 1929, p. 71–88. Text in Russian. Title tr.: Agents of 17th century Russian merchants.

Discusses contracts and documents of

wealthy merchants' employment of needy relatives or others to purchase goods from prospectors and trappers in Siberia, to supervise sales at trading centers (including Arkhangel'sk, Mangazeya, Nerchinsk), etc. Agents' length of service and pay, also financial transactions, etc., are included.

\*\*Copy seen: DLC.\*\*

43826. BAKHRUSHIN, SERGEĬ VLADIMIROVICH, 1882–1950. Andret Fedorovich Palitsyn. (In his: Nauchnye trudy. t. 3, pub. 1955. pt. 1, p. 175–97.) 16 refs. Reprinted from: Veka, istoricheskií sbornik I, Petrograd, 1924, p. 79–110. Text in Russian. Title tr.: Andref Fedorovich Palitsyn.

Biographical sketch of the governor (voyevoda) of Mangazeya, 1629–31, and his co-governor G. I. Kokorev. Their enmity and the part they played in the 1630 revolt (smuta) of Mangazeya are discussed. Palitsyn's plan for a peaceful occupation and colonization of the Lena, Angara and Oka River regions, which appears to have lead to the Lena Expeditions of 1633 headed by P. Golovin, is included.

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43827. BAKHRUSHIN, SERGEĬ VLADIMIROVICH, 1882–1950. Āsak v Sibiri v xvii v. (In his: Nauchnye trudy. t. 3, pub. 1955. pt. 2, p. 49–85.) Approx. 40 refs. Reprinted from: Sibirskie ogni, Novosibirsk, 1927, no. 3, p. 95–129. Text in Russian. Title tr.: Fur tribute in Siberia in the 17th century.

Discusses the Turkic-Mongolian origin of tribute, especially fur tribute (fasak), adopted by the Russian administration. The levy imposed on rural districts (volost'), wintering places (zimov'e) and on individuals are mentioned with selected The difficulties and statistical data. dangers entailed in collecting tribute from formerly free nomads along the Yenisey and Lena Rivers, the practice of taking hostages to secure regular payments from the Samoyeds and Tungus, and the gradual change from tribute in kind to cash-taxation are dealt with. The practice of return gifts (beads, tools, etc.), first used to induce peaceful tribute deliveries from newly conquered peoples beyond the Lena River and in Kamchatka and then spreading westward to other northern peoples, is described.

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43828. BAKHRUSHIN, SERGEĬ VLADIMIROVICH, 1882–1950. Istoricheskoe izuchenie narodov Severa. (Leningrad. Universitet. Uchenye zapiski, no. 115, 1950. Fakul'tet narodov Severa, vyp. 1, p. 7–21.) 27 refs. Reprinted in his Nauchnye trudy, v. 3, pt. 2. Text in Russian. Title tr.: Historical study of the peoples of the North.

Oullines Russian investigations of the history of the northern peoples: early written sources, first scientific explorations, effect of Müller's and Krasheninnikov's work; study in the Pechora and Kola regions; investigations in Siberia by Adrintsev, Sieroszewski, Bogoraz, Jochelson; advancement of historical knowledge in the Soviet period. Tasks of the further historical studies are indicated. This paper delivered to the Northern Conference at Leningrad University, Dec. 10–14, 1947.

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43829. BAKHRUSHIN, SERGEĬ VLADIMIROVICH, 1882—1950. Legenda o Vasilii Mangazeiskom. (In his: Nauchnye trudy. t. 3, pub. 1955. pt. 1, p. 331—54.) Approx. 20 refs. Reprinted from: Akademiña nauk SSSR. Izvestiña. Otdel gumanitarnykh nauk. Leningrad, 1929, no. 6, p. 479—509. Text in Russian. Title tr.: The legend of Vasilii of Mangazeya.

Analyzes the literary works and documents relating to the miracle-working relics of the Mangazeyan saint, Vasilii Fedorov, a shop apprentice done to death by his master supposedly in 1600 at the age of fifteen. The origin of the legend, the contemporary investigations of the miracles and his worship, mainly by the artisans and hunters are discussed. The importance of Mangazeya as trading center on the route down the Yenisey to the Taymyr Peninsula and up the River to the Verkhnyaya and Nizhnyaya Tunguska, Vilyuy and Lena Rivers is stressed and some statistics on its transient population are given.

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43830. BAKHRUSHIN, SERGEĬ VLADIMIROVICH, 1882–1950. Nauchnye trudy. Moskva, Izd-vo Akademii nauk SSSR, 1952–1955. 3 v. in 4., port., fold, col. map (in pocket). Refs. Text in Russian. *Title tr.:* Scientific works.

Contains 38 papers (32 reprinted) of the late section chief of the feudal period of U. S. S. R. history in the Institute of History of the Academy of Sciences. A biographical sketch of Bakhrushin (by V. I.

Shunkov, in v. 1) and a review of his contribution on Siberia (v. 3) are included. His publications are listed (v. 1), those on Siberia in v. 3, pt. 2. Personal name, geographic and ethnographic indexes are given, also (v. 3, pt. 2) a col. map showing 16–17th century distribution of the indigenous Siberian population.

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Vol. 2, on the economic, social and political history of the Russian centralized state of the 15th-17th centuries, includes two papers touching on the North; viz. (titles translated): Agents of 17th century Russian merchants; and Commercial enterprises of Russian merchants

in the 17th century.

Vol. 3, on the history of Siberia in the 16th-17th centuries, is in two parts: the first, on problems of colonization consists of: Sketches on the history of colonization of Siberia in the 16th-17th centuries; P. Khmelevskil; A. F. Pali Gayn; Hire practice in the sable trade of the 17th century; Free peasant communities of Siberia; The trading houses of the merchant Nikitin in Siberia and China; The governors of the Tobol'sk district in the 17th century; Mangazeya "mir" community in the 17th century (No. 27939); The legend of Vasilil of Mangazeva.

Vol. 3, pt. 2, on the history of the Siberian peoples, contains: Samoyeds in the 17th century; The historical fate of Yakutia (No. 990.); Fur tribute in Siberia in the 17th century; Ostyak and Vogul principalities in the 16th-17th centuries (No. 20425); The historical study of the peoples of the North; Beneficial results of Russian colonization and the annexation of Yakutia; The problems of the historical study of Siberia (No. 33433); Current problems of the historical study of Yakutia.

Each paper is described; those in previous volumes of this Bibliography

previous volumes of this Bibliography indicated by number.

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43831. BAKHRUSHIN, SERGEĬ VLADIMIROVICH, 1882–1950. Ocherednye zadachi istoricheskogo izuchenifa lākutii. (In his: Nauchnye trudy. t. 3, pub. 1955. pt. 2, p. 263–72) Ref. Paper delivered in July 1947 at the First scientific session of the Yakut scientific-research base of the Academy of Sciences U. S. S. R., devoted to the 25-year anniversary of Yakut A. S. S. R. and published in its "Doklady", Yakutsk, 1948, p. 28–42. Text in Russian. Title

tr.: Current problems of the historical study of Yakutia.

Describes the comparatively high standard of civilization of the Yakuts in the 17th century and their relationship with Russian colonists. Their extensive adoption of Russian words is noted: currently about 2,400, mainly agricultural and industrial terms. Social and economic development of Yakutia is traced from the 17th century to the present. contributions of Tokarev, Okladnikov, Müller, etc., and the difference of historical approach between pre- and post-Revolutionary scientists are discussed. The importance of further study of the Russian contributions in the cultural and political growth of Yakutia is stressed. Copy seen: DLC.

43832. BAKHRUSHIN, SERGE VLADIMIROVICH, 1882–1950. Ocherki po istorii koloniza sii Sibiri v xvi-xvii vv. (In his: Nauchnye trudy. t. 3, pub. 1955. pt. 1, p. 15–160.) Approx. 100 refs. First published as a book under same title in Moscow, 1927. Text in Russian. Title tr.: Sketches on the history of colonization of Siberia in the 16th–17th centuries.

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Contains three papers on the exploration and settlement of Siberia. Contemporary travel accounts and chronicles are cited and the Russian, English and Dutch attempts to discover the Northeast Passage mentioned. The gradual advance of Russian colonization across the Urals to the Ob', Yenisey and Lena Rivers, trade relations and conflicts with Samoyeds, Yakuts and Tungus, the foundation of trading posts and settlements, etc., are The river and main land discussed. routes used by traders and explorers are described, and the 17th century cartographic and ethnographic works noted. Copy seen: DLC.

43833. BAKHRUSHIN, SERGEĬ VLADIMIROVICH, 1882–1950. Pavel Khmelevskiĭ. (In his: Nauchnye trudy. t. 3, 1955, pt. 1, p. 163–74) 11 refs. Reprinted from "Sbornik stateĭ po russkoĭ istorii, posvíashchennyĭ S. F. Platonovu," Petrograd 1922, p. 269–85. Text in Russian. Title tr.: Pavel Khmelevskiĭ.

Biographical sketch of a 17th century Lithuanian adventurer who, though exiled for treason to Siberia by Tsar Mikhail Fedorovich, became a state official at Yeniseysk. His activities as government inspector at Mangazeya and his part in the 1631 revolt of that important trade center are discussed (p. 168-72).

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43834. BAKHRUSHIN, SERGEĬ VLADIMIROVICH, 1882–1950. Pokruta na sobolinykh promyslakh xvii v. (In his: Nauchnye trudy, t. 3, pub. 1955, pt. 1, p. 198–211.) 15 refs. Originally pub. in: Trud v Rossii, Leningrad 1925, kn. 1, p. 71–84. Text in Russian. Title tr.: Hire practice in the sable trade of the 17th century.

Describes the practice of hire (pokruta) which became in effect servitude (kabala), by which Russian merchants or their agents bound trappers to a contract. The contract involved the take, a time period, general services, etc. by the trapper, and equipment, certain obligations, payment in cash or kind on the merchant's part. Statistics on cost and items of equipment, number of pelts contracted for, etc. are given. The organization and outfitting of hired, also free, parties, length of service and treatment of the bound trappers, debt-bondage for nondelivery of the stipulated number of pelts, rights and obligations of contractors and trappers, etc., are discussed. The 17th century terminology used in trappers' contracts is explained.

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43835. BAKHRUSHIN, SERGEI VLADIMIROVICH. 1882-1950. zhitel'nye rezul'taty russkol kolonizatsii v svíazi s prisoedineniem IAkutii k russkomu gosudarstvu. (In his: Nauchnye trudy. t. 3, pub. 1955. pt. 2, p. 236-53.) Approx. 25 refs. Paper read at the First scientific session of the Yakut scientific research base of the Academy of Sciences U. S. S. R. in July 1947. Also pub. in: Akademifa nauk SSSR. IAkutskii filial. Institut ıazyka, literatury i istorii. Vedushchafa rol' russkogo naroda . . ., p. 49-69. Approx. 50 refs. 1955. Text in Russian. Title tr.: Beneficial results of Russian colonization and the annexation of Yakutia.

Discusses 17th and early 18th century exploration and mapping of Yakutia and Kamchatskaya Oblast', and ethnographic studies of the indigenous population. The discovery and attempted exploitation of natural resources are dealt with: salt (Lena, Vilyuy, Moma Rivers), sulphur (Olekma River), mica (Aldan, Olekma, Chara Rivers), rock-crystal (Ozhogina River), gems and pearls (Okhotsk Sea area). Botanical finds are noted: rhu-

barb and ten new medicinal plants (near Yakutsk and the Aldan River). Russian colonization methods, mixed marriages, introduction of agriculture, and influence of the fur tribute (fasak), paid only by freemen, on the abolition of slavery and transition to a feudal system are dis-Problems of Christianization, cussed. etc., are indicated. The cartographic work of Semen Remezov is stressed: before its discovery by Bering, he marked the Strait separating eastern Siberia from Alaska on his early 18th century map of Kamchatka. Copy seen: DLC.

43836. BAKHRUSHIN, SERGEĬ VLADIMIROVICH, 1882–1950. Promyshlennye predprifatifa russkikh torgovykh líudeľ v xvii v. (In his: Nauchnye trudy, t. 2. pub. 1954. p. 225–55.) Refs. Reprinted from: Istoricheskie zapiski, kn. 8, Moskva, 1940, p. 98–128. Text in Russian. Title tr.: Commercial enterprises of Russian merchants in the 17th century.

Discusses the trade and prospecting activities of large mercantile firms, including (p. 227–30) search for walrus tusks in arctic seas, sable trapping on the Olenek and Lena Rivers, and import of foreign goods via Arkhangel'sk.

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43837. BAKHRUSHIN, SERGEĬ VLADIMIROVICH, 1882–1950. Samoedy v xvii v. (In his: Nauchnye trudy, t. 3, pub. 1955. pt. 2, p. 5–12.) 8 refs. Reprinted from: Severnaß Aziß, 1925, kn. 5–6, p. 100–110. Text in Russian. Title tr.: The Samoyeds in the 17th centurv.

Deals with the Nenets (Samoyed) and related forest-tundra and tundra tribes living, roughly, between the Kanin Peninsula (Arkhangel'skaya Oblast') and the Khatanga River (Yakut A. S. S. R.). The ties between various tribes, conflicts for fishing and hunting rights, seasonal migration routes, fur tribute and trade, reindeer herding and clothing are described. Clan and family organization, adoption of children, slavery, servants, authority of the "pater familias," bloodfeud, shamanism, and the progressive unification of clans into tribes are discussed. Some clan names and selected vital statistics are given.

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43838. BAKHRUSHIN, SERGEĬ VLADIMIROVICH, 1882-1950. Sibirskie slobodchiki; iz istorii koloniza sii Sibiri. (In his: Nauchnye trudy. t. 3, pub. 1955. pt. 1, p. 212–25.) 10 refs. Originally pub. in: Trudy Gos. kolonizafsionnogo instituta, t. 2, Moskva, 1926, p. 127–38. Text in Russian. Title tr.: Free peasant communities of Siberia; from the history of the colonization of Siberia.

Discusses the 17th century peasant colonies, first established in the White Sea and Pechora River areas. Government sponsored and privately formed villages (sloboda) were set up to supply agricultural produce to trade centers (especially Mangazeya on the Taz River) and hunting and trapping outposts on the Yenisey, Lena and Angara. The settlements are described and some selected statistics on the number of households and annual output are given. Problems of administration, relationship between colonists and natives, petitions for additional land grants, etc., are mentioned. Copy seen: DLC.

43839. BAKHRUSHIN, SERGEĬ VLADIMIROVICH, 1882–1950. Torgi gostiā Nikitina v Sibiri i Kitae. (In his: Nauchnye trudy. t. 3, pub. 1955. pt. 1, p. 226–51.) 11 refs. First pub. in: Trudy Instituta istorii RANION, 1, 1926, p. 357–92. Text in Russian. Title tr.: The trading houses of the merchant Nikitin in Siberia and China.

Discusses documents covering the years 1681–1698, dealing with the business transactions of Gavrila Romanovich Nikitin. The trade missions he sent to Siberia for furs, and other raw materials, the establishment of trading posts and depots in Yakutsk and Nerchinsk as clearing houses for his China trade, etc., are included. Some selected statistics on his Siberian trade-turnover, cost of expeditions, duties and taxes paid in Yakutsk, Yeniseysk and Nerchinsk are given.

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43840. BAKHRUSHIN, SERGEĬ VLADIMIROVICH, 1882–1950. Voennopromyshlennye ėkspedisii torgovykh lūdel v Sibiri v xvii veke. (Istoricheskie zapiski, 1941. t. 10, p. 167–79.) 7 refs. Text in Russian. *Title tr.:* The military character of commercial expeditions to Siberia in the 17th century.

Deals mainly with the exploits of the merchant Erofel Khabarov, one of the first Russian settlers to receive land grants on the Kuta and Lena Rivers. He organized an expedition to the Amur region financing it by raids on peaceful

Yakuts (Olekma River region) and Gilvaks, confiscating their government tribute, holding hostages for ransom, etc. Other expeditions for walrus tusks and furs to the Chûkhcha (Chukcha?), Kovyma (Kolyma?), Anadyr' and Penzhina Rivers are mentioned; occasionally government-sponsored, they were mostly made by free-lance traders or rank-andfile soldiers. The military and predatory aspect of these commercial undertakings is stressed. Copy seen: DLC.

43841. BAKHRUSHIN, SERGEĬ VLADIMIROVICH, 1882-1950. Voevody Tobol'skogo razrada v xvii v. (In his: Nauchnye trudy. t. 3, pub. 1955. pt. 1, p. 252-96.) Approx. 40 refs. First pub. in: Uchenye zapiski Instituta istorii RANION, t. 2, Moskva, 1927, p. 168-218. Text in Russian. Title tr.: Governors of the Tobol'sk district in the 17th

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Describes the administrative and military functions of the governors of the district (approx. Omskaya Tobol'sk The life and work of two Oblast'). outstanding officials are discussed: IU. IA. Suleshev, who was governor 1623-25, established the so-called "Chrezkamennyi" (Trans-Ural) trade route from the Pechora to the lower Ob' River; P. I. Godunov (1667-70) founded a free peasant colony (sloboda) on the Belaya River near Yeniseysk to revictual Mangazeya, and he organized the new supply route via the Yenisev and Turukhan Rivers and Yenisey portage to the Taz River. Copy seen: DLC.

43842. BAKHTA, V. Lopari. (Vokrug sveta, May 1956, no. 5, p. 37-38, illus.) Text in Russian. Title tr.: Lapps.

The Norwegian Lapps: their origin, seasonal migrations, reindeer husbandry, dwellings, acculturation.

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43843. BAKKE, ARNT. Skillingsvisene. (Ottar, Tromsø, Mar. 1955. nr. 4, p. 23-26, illus.) Text in Norwegian. Title tr.:

The shilling songs.

The Tromsø Museum has a collection of ca. 200 printed songs popular in northern Norway about 100 years ago. Their distribution along the coast was largely the work of a Tromsø bookdealer who sold them for 1-2 shillings each. They are comparable in theme and music to present-day songs.

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43844. BAKKENDORF, O. Notes on Icelandic and Greenlandic Chalcidoideous Hymenoptera. (Entomologiske meddelelser, Nov. 10, 1955. bd. 27, hefte 3, p. 135-62, 41 illus.) 46 refs.

Contains synopsis of 27 species, one and a variety described as new; five are from Greenland. Copy seen: DA.

43845. BAKULIN, F. G. K opredeleniû ponfatil "vlazhnost' i l'distost' merzlykh gruntov." (Akademiia nauk SSSR. Institut merzlotovedenia. Materialy k osnovam uchenifa o merzlykh zonakh zemnol kory, 1955. vyp. 2, p. 52-56.) 11 refs. Text in Russian. Title tr.: Defining the concept of "moisture and ice

content of frozen ground."

"Characteristics of frozen ground under varying moisture conditions are outlined, and revised terminology is suggested. It is recommended that moisture content and ice content of frozen ground denote the percentage of moisture and ice in the total ground sample by weight or by volume. The sum of moisture content and ice content should be used similarly to characterize the total H2O content of the frozen strata."-SIPRE.

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43846. BAKULIN, F. G. Po povodu odnoľ gipotezy M. N. Goľdshteľna o pereraspredelenii vlagi i l'dovydelenii v gruntakh. promerzafushchikh demis nauk SSSR. Institut merzlotove-Materialy k osnovam uchenifa o denifa. merzlykh zonakh zemnol kory, 1955. vyp. 2, p. 34-37.) 13 refs. Text in Russian. Title tr.: Gol'dshtein's hypothesis on water migration and ice formation in

freezing ground. This hypothesis, proposed in 1948, was based solely on the theory that moisture migration between frozen and thawed soil strata is a result of differences in osmotic pressure. Investigations of Rode, Abramov, and others from 1936-1953 indicate that cohesion and migration of water in a dispersed medium are caused by surface forces appearing at the division between solid and liquid phases or solidliquid-air. This has no relation to the osmotic phenomenon. Thus all formulas based on Gol'dshtein's hypothesis are considered useless for calculating forces of frost heaving.-From SIPRE.

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43847. BALASHOV, Z. G. Cephalopoda - golovonogie. (In: Leningrad. Vsesofuznyl geologicheskil institut. Polevoĭ atlas ordovikskoĭ i siluriĭskoĭ fauny Sibirskoĭ platformy, 1955. p. 87–104, illus.) Text in Russian. *Title tr.*:

Class Cephalopoda.

A general description of the group with special emphasis on the nautiloids, their anatomy, distribution, remnants and their collection. Some 33 forms are dealt with, some of them new. They are found all over the Siberian plateaux and are also reported from North America, Greenland, etc. Copy seen: DLC.

BALCHIN, WILLIAM GEORGE VICTOR, see Geography and man . . . 1955. No. 45067.

43848. BALDINI, L., and L. CAVAL-LERI. Su una modificazione dell' onda T (all' ECG) in corso di ipotermia del ratto. (Società Italiana di Biologia Sperimentale. Bolletino, 1956. v. 32, no. 3-5, p. 229-31, illus.) 4 refs. Text in Italian. Title tr.: A modification of the T wave (of the ECG) during hypothermia in the rat.

Account of observations on rats made hypothermic to 20° C. and kept in this condition for over 18 hrs. Changes in the ECG during this period were automatically registered and their details are discussed.

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BALDINI, L., see also Cugurra, F., and L. Baldini. Ganglioplegici ed ipermetabolismo da freddo. 1956. No. 44504.

BALDINI, L., see also Cugurra, F., and L. Baldini. Sulla capacità . . . ganglioplegici . . . 1 . . . nicotina. 1955. No. 44505.

BALDINI, L., see also Cugurra, F., and L. Baldini. Sulla capacità . . . ganglioplegici . . . 2 . . . TEA. 1955. No. 44506.

BALDINI, L., see also Cugurra, F., and L. Baldini. Sulla capacità . . . ganglioplegici . . . 3 . . . esametonio. 1955. No. 44507.

BALDINI, L., see also Cugurra, F., and L. Baldini. Sulla capacità . . . . ganglioplegici . . . 4 . . . 1956. No. 44508.

BALDINI, L., see also Cugurra, F., and L. Baldini. Sulla capacità . . . . ganglioplegici . . . 5 . . . 1956. No. 44509.

43849. BALDUF, WALTER VALENTINE, 1889— . The life history of the goldenrod beetle, *Trirhabda canadensis* 

Kirby; Coleop.: Chrysomelidae. (Entomological news, Feb. 1929. v. 40, no. 2, p. 35–39.) 7 refs. "Contrib. no. 129 from the Entomological Laboratories of the University of Illinois."

Contains data on the larval, pupal, and adult stages, oviposition, eggs, generation and hibernation of this bettle feeding upon goldenrod Solidago sp. and recorded in the Hudson Bay region.

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43850. BALDWIN, JOHN THOMAS, 1910—. Cytophyletic analysis of certain annual and biennial Crassulaceae. (Madroño, Apr. 1940. v. 5, no. 6, p. 184-92, plate 17.) 29 refs.

Includes data on Sedum annum, occurring in Greenland. It behaves sometimes as a perennial and has twenty-two somatic and eleven gametic chromosomes. The trend in life duration in the Crassulaceae has been from the annual or biennial to the perennial condition.

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43851. BALL, CARLETON ROY, 1873-. Dr. Setchell and Alaska willows. (Madroño, July 1940. v. 5, no. 7, p. 231-32, plate 24 (port.))

Dr. W. A. Setchell and his wife in 1931 and 1932 brought back 619 numbers of willows from Alaska and the Yukon These contained 21 species of some 24 then known to occur in Alaska, as well as many of their variations. Five species not previously known from Alaska were also represented: Salix anglorum, S. barrattiana (var. angustifolia), S. lasiandra (var. lancifolia), S. pseudo-monticola and S. setchelliana. His collections provided also two varieties, not known from Alaska, and three later described as new to science.

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43852. BALL, CARLETON ROY, 1873-. New varieties and combinations in Salix. (Washington Academy of Sciences. Journal, Oct. 15, 1938. v. 28, no. 10,

p. 443-52.)

Contains descriptions of two new varieties and two new combinations of willow.

S. alaxensis var. obovalifolia n. var. occurring in Mackenzie and Keewatin Districts (Great Bear Lake, Baker Lake) are included.

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43853. BALL, CARLETON ROY, 1873-. Two problems in *Salix* distribution. (Mandroio, July 1949. v. 10, no. 3, p. 81-87, 2 text maps.)

"The first problem is presented by two

unrelated species, having an extremely extended, but fairly continuous, distribution from south to north." S. lasiandra and its variety lancifolia occur from northwestern Mexico to Alaska and Yukon; the total recorded range covers 35 degrees of latitude (34°-67° N.). S. interior and its variety pedicellata range northward from the mouth of the Mississippi (30° N.) across the United States and Canada to slightly beyond the Arctic Circle in Alaska. "The second problem is concerned with two unrelated species which have a fairly extensive, but finally discontinuous, distribution from east to west." Of these two species, S. serrissima occurs commonly from New England and lower Canada westward; northward the range extends to Lake Athabaska and southern Mackenzie. Copy seen: DA.

BALLANTYNE, R. M., and M. C. ANGLIN. The effect of temperature on the stability of packaged ration items from the Canadian five-man Arctic ration pack RPX 1B. Toronto, Apr. 1955. 5, 10 p. tables (Canada. Defence Research Medical Laboratories. Report no. 173-13) 2 refs.

Account of acceptability tests of food items of this ration over a period of two years. The items were stored at 0° F. and 70° F. for two years and at 100° F. for one year. Ten, out of 31 items acceptable initially, were unacceptable after storage for two years. Storage at 100° F. did not prove satisfactory for predicting storage life at lower temperatures and was discontinued after one Copy seen: DNLM. year.

BALLANTYNE, ROBERT MICHAEL, 1825-1894, see also Kemp, J. D., and R. M. Ballantyne. Field evaluation . . . Canadian . . . ration pack. 1956. No. 45940.

43855. BALLIGAND, P. Les sousmarins sous la banquise. (Revue maritime, June 1955. n. sér. 110, p. 737-52, illus.) Text in French. Title tr.: Sub-

marines under the pack ice.

Contains an historical review of the use of submarines under ice, beginning with Sir Hubert Wilkins' cruise north of Spitsbergen in 1931. German submarine patrols in Kara Sea during World War II are discussed, also the mission to land weather observers on West Spitsbergen. It is concluded that submarines are ideally suited for arctic operations provided that the craft has been specially Copy seen: DLC. equipped.

43856. BALTHASAR, KARL G. The histology of aimed hypothermal brain injuries in cats. (Journal of neuropathology and experimental neurology, Apr. 1956. v. 15, no. 2, p. 211-12.)

Account of histo-pathological investigations of circumscribed areas of the cortex, exposed to temperatures of 10 to -60° F. The macro- and microscopical changes caused by the procedure are described and discussed.

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43857. BAL'ZAK, S. S., and others, Editors. Economic geography of the U. S. S. R. American edition edited by Chauncy D. Harris. Translated from the Russian by Robert M. Hankin and Olga Adler Titelbaum. Preface by John A. Morrison. New York, Macmillan, 1952. 620 p. 84 maps, 53 tables. (American Council of Learned Societies Devoted to Humanistic Studies. Russian Translation Project. Series 3.) Other editors: V. F. Vasîtin and ÎA. G. Feigin.

Contains translation (unabridged) of the first volume of a two-volume Soviet textbook for use at university level; the second volume was not available to American translators. This volume is devoted to a general survey of the productive forces of the U.S.S.R. as a whole. It deals first with physical geography, natural zones, and mineral resources. Then follow discussions of the distribution of productive forces in tsarist Russia (with much reference to Communist theory and improvements), principles of socialist distribution of productive forces, and the distribution of population, industry, agriculture, and transport. References to northern areas occur Appended are statistical throughout. tables, tables of equivalents (weights and measures), list of abbreviations and signs, transliteration table, glossary of Russian terms, boundary changes 1939-1945, indexes of citations, persons, plants and animals, place names. With the excep-tion of some statistics, these appendices and indexes were added by the American Nineteen of the maps were compiled for the American edition.

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BAMFORD, C. A., see Great Britain. Hydrographic Dept. Supplement no. 3 . . . Arctic pilot, vol. II . . . 1955. No. 45262.

43858. BANFIELD, ALEXANDER WILLIAM FRANCIS, 1918—, and others. An aerial survey technique for northern big game. (North American Wildlife Conference. 20th, Montreal, Canada, 1955. Transactions, p. 519–32, illus. tables.) 13 refs. Other authors: D. R. Flook, J. P. Kelsall and A. G. Loughrey.

Use of aircraft in surveys of mammals is reviewed, and factors to be considered in such surveys discussed: flight patterns, transect, width and their determination, analysis of data, herd counts, use of aerial photography, etc. Conditions as they apply to moose, caribou, white sheep, walrus and musk-oxen are discussed and the method best suited for each species recommended.

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43859. BANFIELD, ALEXANDER WILLIAM FRANCIS, 1918—. The caribou crisis. (Beaver, Spring 1956. Outfit 286, p. 3–7, 3 illus., text map.)

Caribou population on the Canadian mainland between Hudson Bay and the Mackenzie valley was estimated at 670,000 in a preliminary investigation led by the writer in 1949. Mortality figures showed a deficit of about 33,000 animals a year. Survey of northern Yukon was made in 1953, of Baffin Island and northern Quebec in 1954. Resurvey of the Hudson Bay-Mackenzie valley region in 1955 indicated caribou population of 277,000, a decline of 60 percent in six years. Factors responsible for excessive decline are considered: disease, late winter blizzards, wolf predation, human utilization. Waste of caribou by Eskimos and Indians is stressed. Practices which must be curbed by program of conservation education are noted.

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43860. BANFIELD, ALEXANDER WILLIAM FRANCIS, 1918— . Records of two microtine rodents from the Quebec tundra. (Canadian field-naturalist, Apr.—June 1956. v. 70, no. 2, p. 99.)

Contains notes on a small collection of three red-backed voles, Clethrionomys gapperi ungava, one bog lemming, Synaptomys borealis innuitus, and two collared lemmings, Dicrostonyx hudsonicus, caught in traps set in the tundra near camp at Payne Lake (59°30′ N. 74° W.) in Ungava Peninsula, in July-Aug. 1954.

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BANG, H. O., see Christensen, P. E., and others. An epidemic of measles . . . 1951 . . . 1 1952. No. 44357.

BANG, H. O., see also Christensen, P. E., and others. An epidemic of measles . . . . 1951 . . . . 2 . . . . 1953. No. 44358.

BANG, H. O., see also Christensen, P. E., and others. An epidemic of measles . . . 1951 . . . . 3 . . . . 1953. No. 44359.

BANGSBØLL, F. C. S., see Bogen om Knud . . . 1945. No. 44073.

43861. BANK, THEODORE PAUL, 1923- . Birthplace of the winds. New York, Thomas Y. Crowell, 1956. 274 p. illus., text maps.

Contains popular account of the summer 1948 spent in the Aleutians by the writer and R. Dorsett, visiting Adak, Atka, Ilak, Umnak, and Kagamil. Botanical collections were made, Aleut villages and population studied, and burial caves visited. The account primarily deals with the Aleuts, their living conditions, customs, and the effect upon them of contact with white civilization.

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43862. BANKS, NATHAN, 1868–1953. Catalogue of nearctic spiders. Washington, D. C., 1910. 80 p. (U. S. National Museum. Bulletin 72.)

Contains a systematic list of a little over 1300 species with literature citations and brief data on distribution in North America. A few new names have been proposed where other names were preoccupied by foreign species. At least 20 species are recorded in Alaska and a few in northern Canada. Copy seen: DLC.

43863. BANNER, ALBERT HENRY, 1914 - A taxonomic study of the Mysidacea and Euphausiacea (Crustacea) of the northeastern Pacific, pt. III; Euphausiacea. (Royal Canadian Institute. Transactions, Oct. 1949. v. 28, pt. 1, no. 58, p. 1–63, 4 plates.) 96 refs.

Contains a key to the genera of the family Euphausiidae, descriptions of 13 species, of which one (Thysanopoda dubia) occurring in the Bering Sea, is described as new, with synonyms, critical notes and data on distribution. The ranges of the species (cf. table, p. 3) include the Arctic Ocean, Bering Sea, Aleutian waters and Gulf of Alaska. Eleven of the 13 species are native to northern waters. This paper is a continuation of No. 1040 of

Arctic Bibliography. Appended (p. 49-55) is an artificial key to the species of schizopods known to occur in the North Pacific.

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43864. BARANOV, I. Â. Dzhnafa granifsa oblasti rasprostranenifa mnogoletnemerzlykh porod. (Akademifa nauk SSSR. Institut merzlotovedenifa. Materialy k osnovam uchenifa o merzlykh zonakh zemnol kory, 1955. vyp. 2, p. 38-44) 5 refs. Text in Russian. Title tr.: Southern limit of permafrost.

The southern limit of permafrost is defined as a conditional boundary consisting of the southernmost permafrost islands. Its location in Eurasia is given with reference to physico-geographical (permafrost) geophysical (zero isotherm) conditions, and to probable development of permafrost in valley (zonal) and mountain (belt limits). A map of permafrost in the U.S.S.R., now being prepared (scale of 1:1,000,000) will include, in addition to permafrost zones proper, regions of seasonal soil freezing, permafrost island zones, and soil layers frequently unthawed for one or more Copy seen: DLC. summers.

43865. BARASHKOV, PETR PETROVICH. Soveshchanie po obsuzhdenia Ocherka istorii fakutskof sovetskof literatury. (Akademia nauk SSSR. Izvestifa. Otdelenie literatury i fazyka, 1955. t. 14, vyp. 1, p. 103–104.) Text in Russian. Title tr.: Session for the discussion of: Outline of the history of Soviet Yakut literature.

Contains the report of a conference on Yakut literature held at Yakutsk, Oct. 1954, under auspices of the Institute of Literature and Language of the Soviet Academy of Sciences. Scientists, writers, teachers and students of the Yakut Pedagogic Institute were present. Among the problems discussed were the developments of Yakut-Soviet literature in the pre-war, wartime and post-war periods as well as the matter of "socializing" it. Copy seen: DLC.

43866. BARBER, CHARLES WILLIAM. Summary of empirical forecasting rules for Aleutian Island stations. Washington, D. C., Oct. 1947. 11 p. (U. S. Chief of Naval Operations, Aerology Flight Section. NAVAER 50-I T-35.)

Empirical rules are given for forecasting orographic effects on the wind and state of the sky conditions (cloud cover, visibility, precipitation) for the following

locations: Adak, Amchitka, Attu, Cold Bay, Dutch Harbor, Shemya, Ianaga Island, Oglinga Island, Umnak, Kodiak, Naknek, and Port Heiden.

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BARBER, F. G., see Canada. Joint Committee on Oceanography. Annual reports . . . 1955–56. 1956. No. 44266.

43867. BARBER, HARRY GARDNER, 1871—. Revision of the genus Nysius in the United States and Canada. Hemiptera Heteroptera: Lygaeidae. (Washington Academy of Sciences. Journal, Oct. 15, 1947. v. 37, no. 10, p. 354–66, diagr.)

Contains historical notes, descriptions of 13 species, three new, list of species with synonyms and a key (males).

N. groenlandicus, native to Greenland, Hudson Bay and Labrador, is included.

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BARDIN, I. P., see Bulanzhe, ÎÛ. D. Mezhdunarodnyi geofizieheskii god. 1956. No. 44190.

43868. BARFOD, H. P. Dansk-grønlandsk ordliste til skolebrug. 2. udg. Godthaab, Godthaab seminarium, 1952. 34 p. Text in Danish and Eskimo. Title tr.: Danish-Greenlandic dictionary for school use. 2d. ed.

Over 2,000 words and expressions, mainly from Danish textbooks, with Greenlandic equivalent.

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43869. BARFOD, PIE. Prisudviklingen i Grønland. (Grønland, 1953, hefte 6, p. 231–35, illus., tables.) Text in Danish. *Title tr.*: The price trend in Greenland.

Contains a survey of prices from before the war until 1953 (the rise: about 230 percent). Tables provide comparisons with prices in Denmark. Greenland trade still shows a deficit, but too sudden and great a rise in prices would merely transfer the deficit to other departments of the Greenland administration.

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BARILA, TIMOTHY G., see Riley, P. A., and others. Ventricular fibrillation . . . hypothermia; tolerance . . . dog . . . . 1956. No. 47589.

BARILA, TIMOTHY G., see also Riley, P. A., and others. Ventricular fibrillation . . . hypothermic dogs . . . thiopental . . . 1956. No. 47590. BARILA, TIMOTHY G., see also Segar, W. E., and others. Urinary composition . . . hypothermia. 1956. No. 47874.

43870. BARKALOW, FREDERICK SCHENCK, 1914- . Extension of the known range of Marmota monax in Alaska. (Journal of mammalogy, May 1956.

v. 37, no. 2, p. 291.)

Records and describes animals taken near Fairbanks by Arctic Aeromedical Laboratory personnel of Ladd Air Force Base. This represents an extension of the large woodchuck's range by some 200 miles west-north-west of the head of Forty-mile Creek, the previous most northerly point of occurrence known.

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BARKER, BURT BROWN, see McLoughlin, J. The financial papers . . . 1949. No. 46545.

43871. BARKER-SIMSON, D. S. Technique of air supply to the British North Greenland Expedition, 1952–53. (Polar record, Jan. 1956. v. 8, no. 52, p. 35–39,

diagr.) Ref.

During 1952 and 1953, Hastings C. mk II. aircraft, R. A. F. Transport Command, dropped 143 tons of supplies and fuel at the expedition's advance base "Northice" and (in 1953) at the fuel dump "West Point," both on the inland ice. Supplies had been sent by sea to Thule, then flown to the icecap. Grid navigation and gyro-steering were used throughout the flights, and astro fixes were taken. The dropping zone is described and diagrammed. In 1952, fuel was free-dropped in jerricans, with loss of 19 percent; in 1953, 55-gallon drums were used (with air space to prevent bursting on impact) and free-dropped from 50 ft. Fragile equipment and stores were dropped by parachute from 400 ft. Other supplies were packed in jute sacks and free-dropped from 50 ft. The freedropping technique is described. Comparisons are made with French techniques in Greenland, 1949-1951.

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43872. BARLOW, E. W. Five-year current means at ocean weather stations I and J. (Marine observer, Apr. 1956. v. 26, no. 172, p. 108-109, diagr.)

Contains a summary of observations (1948–1952) of these weather ships, taken within the North Atlantic Current on the eastern side of the ocean. Current roses for the summer quarter for station I and

the winter quarter for station J are reproduced. The resultant flow is remarkably similar at the two stations. Copy seen: DLC.

43873. BARLOW, E. W. The international ice nomenclature. (Marine observer, July 1956. v. 26, no. 173,

p. 149-50.)

Describes project initiated by the International Meteorological Organization, Commission for Maritime Meteorology at Toronto meeting 1947. The nomenclature developed was approved by the World Meteorological Organization, Dec. 1955. It is an abridged one for use of seamen and others who are required only to differentiate among the main types of ice. It contains 87 terms (not listed here) as compared to the previous 47 used in the British Admiralty Pilots. The advantage of the new nomenclature is greater precision and clarity of definitions. Numerical values have been introduced wherever possible.

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43874. BARLOW, GEORGE, 1926– and others. Blood levels of 17-hydroxycorticosteroids in hypothermic dogs. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 9.) Other authors: H. P. Agersborg, Jr., and R. R. Overman.

Account of observations on dogs made hypothermic by exogenous means and subsequently exposed to a temperature of 50° C. Mean blood pressure, rectal temperature, plasma and red blood cell electrolytes and plasma steroid levels were studied, the plasma steroids showing the most pronounced changes.

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BARLOW, JOHN SLANEY, 1921–, see Arsenault, M. G., and J. S. Barlow. Preliminary report . . . captive lemmings . . . diabetes . . . 1954. No. 43753.

43875. BARNER, H. Foraedlingsarbeidet med skovtraer. (Norske skogplanteskoler. Årsskrift, 1950. p. 25–30.) Text in Danish. *Title tr.*: Improvement activities with forest trees.

In a discussion of hybridization, it is reported that spruce in Norrland, Sweden, can be improved to produce a quarter ton of cellulose per hectare-year at present.

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43876. BARNES, CLIFFORD ADRIAN, 1905– , and T. G. THOMPSON. Physical and chemical investigations in Bering Sea and portions of the North Pacific Ocean. Seattle, Published by the Univ. of Washington, Dec. 1938. 37-79, 163 p. charts, maps, tables. (Washington, State. University. Publications in oceanogra-

phy, v. 3, no. 2.) 28 refs.

The oceanographic work performed on two cruises during the summers of 1933-1934, within the area lying generally between 50° and 65° N. lat. and 163° and 180° W. long. is reported. Standard oceanographic measurements were made at a large number of stations, and surface samples were taken between stations. Charts are presented showing the horizontal distribution of the physical and chemical properties for the surface, 25-meter and 50-meter levels. Vertical distribution of temperature and chemical content is graphed for a number of sta-Copy seen: DLC.

43877. BARNES, CLIFFORD ADRIAN, 1905- . Sea ice problems. (In: National Academy of Sciences-National Research Council. Symposium on oceanographic instrumentation under sponsorship of the Office of Naval Research. Rancho Santa Fe, Calif., June 21–23, 1952. p. 85–100.) 24 refs.

Contains outline of sea ice problems and attendant instrumentation. Suitable facilities for sea ice studies are discussed including surface vessels with emphasis on the disadvantages of icebreakers as oceanographic platforms; submarines; aircraft; land and ice vehicles. usefulness of radar, sonar, loran, shoran, and the electronic-position-indicator in navigation and ice detection is assessed, and the physical and chemical properties of sea ice are reviewed in terms of current studies and complications. It is concluded that conventional oceanographic and related instruments can be used for sea ice studies with but little modification; studies of sea ice are not progressing at an optimum rate. Inadequate facilities for contact with ice, failure to use present facilities to their fullest extent, an insufficient number of participating scientific personnel, and lack of formal instruction and training in the field are factors to be considered. An appended discussion by Waldo K. Lyon treats specific field studies of sea ice which require investigation and concludes that the five essential needs are costly, specialized vehicles, submarine and icebreaker; laboratory facilities and studies; first field studies in sea ice dynamics; a

set of equations of state for the phase mixture, sea ice; investigators.

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BARNES, CLIFFORD ADRIAN, 1905-, see also Thompson, T. G., and others. Distribution of dissolved oxygen . . . 1934. No. 48381.

43878. BARNES, DAVID F., 1921-Gravity studies in the Nuna Ramp area. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, pub. 1954. p. 93-104, illus., diagrs.,

map.) 2 refs.

Results are reported of investigations near Thule, North Greenland, made on the approximate shape of the Nuna Ramp drainage channel to determine the causes for irregularities in ice motion and structure, and on ice thickness to estimate the volume of ice flow; and the profiles through the ice and bedrock are given. The sled trail to Alpha was shown to be essentially free of crevasse-forming bedrock irregularities, although there may be some danger due to thin ice (less than 800 ft.) at Mile 26. The Nuna Ramp is a tongue of ice 700-1000 ft. thick terminating in a deep valley continuous with the Twin Lake Valley. The ice forming the Twin Glaciers is 600-700 ft. thick in midglacier. The Nuna Ramp has a larger drainage basin than either of the Twin Glaciers, but much ice in this part of the icecap is diverted toward Molte Glacier by a buried valley at Mile 11 on the trail to Alpha and by a series of buried hills south of Weather Stations 4, 5 and 6. Two heavily crevassed areas were found to exist over steep bedrock slopes covered by thin layers of ice 5 and 8 mi. south of Nuna Ramp. All gravity observations were made with a Worden meter with a special scale. The control points by altimetry are shown on a map of ice surface elevations on Nuna Ramp, as well as gravity contours and profiles. Copy seen: CaMAI.

43879. BARNES, DAVID F., 1921- , and R. J. ZAVADIL. Gravity studies on the Greenland Ice Cap. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, pub. 1954. p. 377-93, illus., graphs, maps, tables.)

Gravity exploration seems to be a promising method for determining areas where there is danger of crevassing. Nearly 600 gravity observations were made along the Transportation Corps trails on the icecap. Sharp bedrock gradients under a relatively thin ice cover were found in the six places where the gravity profiles crossed crevassed areas. Similar conditions were found in another half-dozen areas, which should be searched for crevasses. Almost all existing crevasses and the danger areas occur along the trail between Thule Takeoff and Alpha. Crevasse-forming conditions also exist between Thule Takeoff and Hard Top, and there is a possibly dangerous area just west of Alpha on the trail to Nuna Takeoff. Beyond Alpha the ice thickens rapidly, and there is no danger of crevassing. Beyond Sierra the bedrock surface is extremely flat and slopes gradually downward to sea level at Point X. The ice on the Thule peninsula forms a separate cap and apparently moves northeast into the valley of Moltke Glacier, which stretches far inland towards Sidebriks Fiord on the other side of the peninsula. Gravity and seismic profiles are appended.—Authors' abstract. Copy seen: CaMAI.

43880. BARNES, DAVID F., 1921—, and others. Gravity surveying as a method for determining the relationship between bedrock and ice-surface topographies of an ice cap. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1668.) Other authors: L. D. Taylor and R. J. Zavadil.

Abstract of paper submitted to the Society meeting in Minneapolis, Oct. 31-Nov. 2, 1956. In summers 1953 and 1954, the U. S. Geological Survey made a gravity survey of the Greenland icecap margin near Thule with emphasis on obtaining an approx. gravity contour map. Bedrock and ice surfaces have somewhat similar forms but ice topography is much subdued and influenced by ice movement. When ice is over 3,000 ft. thick, icesurface relief is almost imperceptible.

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43881. BARNES, DAVID F., 1921-, and G. R. MACCARTHY. Tests of geophysical prospecting techniques in areas of sporadic permafrost in interior Alaska. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1805.)

Abstract of paper presented at Seventh Alaskan Science Conference (AAAS), Juneau, Sept. 27–30, 1956. Tests by the U. S. Geological Survey near Fairbanks, Big Delta, and Tok in 1952 showed that the seismic refraction method was excel-

lent for detecting bottom of permafrost or top of bedrock. Resistivity techniques indicated presence of permafrost and provided estimate of thickness, but accuracy of depth measurements was limited.

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4382. BARNES, FARRELL FRANCIS, 1905—, and T. G. PAYNE. The Wishbone Hill district, Matanuska coal field, Alaska. Washington, D. C., U. S. Govt. Print. Off., 1956. vi, 88 p. text map, 20 fold. plates (maps, sections), 4 tables. (U. S. Geological Survey. Bulletin 1016.) 17 refs.

This district (approx. 61°40′ N. 149° W.) is about 8 mi. long and 1½ mi. wide, 6 mi. north of Palmer on the Matanuska River. The general geology is described. The coal beds largely confined to the upper 1,400 ft. of the 3,000 ft. thick Chickaloon formation, range in thickness from a few inches to 23 ft. The coal is high-volatile B bituminous in rank and ranges from 10,500 to 13,000 Btu. Reserves are estimated (July 1952) at about 102 million tons (50 million indicated, 52 million tons inferred).

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43883. BARNES, J. C. Power consumption of small belts at low temperatures. Ottawa, Apr. 1956. 4 p., 2 graphs. (National Research Council of Canada. Radio and Electrical Engineering Division. ERB-393. NRC no. 3962.)

"A description is given of two series of tests conducted over a temperature range of  $-30^{\circ}$  C. to  $+20^{\circ}$  C.: (a) tests of four different belts at a single speed, (b) tests of one belt at three different speeds. The results show that the most serious factor in belt power consumption at low temperatures is high-speed operation. Furthermore, a motor with high starting torque is absolutely essential for low-temperature operation."—Author's abstract.

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43884. BARNETT, LINCOLN KINNEAR, 1909— . The epic of man, part III: the growth of society. (Life, Feb. 27, 1956. v. 40, no. 9, p. 70–91, 26 illus. (21 col.))

Includes (p. 80-91) description of the Caribou Eskimos of the Barren Grounds, Keewatin District, as the closest present equivalent to Mesolithic man in Europe 10,000 years ago. These Eskimos have had sustained contact with the outside world only since 1949. Their dependence

upon and uses of the caribou for food, shelter, clothing, tools, weapons and toys is described (and photographed); their tribal organization and social structure is discussed, also their improvidence.

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4385. BARROW, HENRY D. Paradise north: an Alaskan year; with drawings, by Susan Barrow. New York, Dial Press, 1956. 242 p. illus., 2 text maps.

Following a summer of field work with the U. S. Fish and Wildlife Service in Southeast Alaska, the author and his wife spent a year (autumn 1952 to autumn 1953) on a boat in a small cove of Wrangell Island (56°18′ N. 132°10′ W.). Their observations of fish, invertebrate marine fauna, birds, sea mammals, and island flora are presented, and a brief list of general books on Alaska, oceanography, zoology, botany, etc., is added. 

\*\*Copy seen: DLC.\*\*

BARROW, SUSAN, see Barrow, H. D. Paradise north . . . 1956. No. 43885.

4386. BARSUKOV, V. V. Belomorskafa zubatka, Anarhichas lupus marisalbi Barsukov. (Voprosy ikhtiologii, 1956. vyp. 6, p. 129–35, illus., tables.) Ic refs. Text in Russian. Title tr.: The White Sea wolf fish, Anarhichas lupus maris albi Barsukov.

Contains a morphometric study of these fishes from the White Sea as compared with such of the Barents Sea. Individuals of various ages were examined, as well as anatomy, development, food, etc. On the basis of the study, author claims a subspecies status for this form.

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43887. BARTELS, JULIUS, 1899—. Geomagnetic observations in polar regions. (CSAGI Arctic Conference... pub. in: I. U. G. G. news letter, Sept. 1956. 5° année, no. 15, p. 374–80.)

The instrumentation of a geomagnetic observatory is outlined, and special requirements for polar stations are discussed. A dense network of magnetic stations is required in the polar auroral zone due to rapid ionospheric current fluctuations. It is suggested that a regular program of measuring earth-currents be added to the observations. The most important contribution that polar geomagnetic observations can make to the overall IGY program is the most direct measurement of corpuscular radiation.

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43888. BARTH, TOM FREDRIK WEIBY, 1899— . Geology and petrology of the Pribilof Islands, Alaska. Washington, D. C., U. S. Govt. Print. Off., 1956. p. 101–160. illus., maps (2 fold.), diagrs., cross-sections, 7 tables. (U. S. Geological Survey. Bulletin 1028—F. Investigation of Alaskan volcanoes.) 61 refs.

Pribilofs (56°35′-57°11′ N. 169°35'-170°24' W.) consist primarily of basaltic lava flows and sills, with minor amounts of pyroclastic tuffaceous material and intercalated glacial sediments. Fossils range from Pleistocene to Recent. A peridotite basement occurs on St. George Island. Geology of St. Paul, Otter, and St. George Islands is described, then in detail, the petrology of the peridotite, aplite, lava, and pyroclastic deposits, with chemical analyses and discussion of petrogenetic problems of the tuffs, limburgite, and olivine nodules. The Pribilof area was built up in the late Pleistocene by large fissure eruptions. Origin of the glacial sediments on top of the peridotite and among the lava flows has not been satisfactorily explained. Copy seen: DGS.

43889. BARTHOLOMEW, GEORGE A. DELBERT, 1919— and F. WILKE. Body temperature in the northern fur seal, Callorhinus ursinus. (Journal of mammalogy, Aug. 1956. v. 37, no. 3, p. 327–37, illus., tables.)

Contains a study of temperature and temperature regulation of these animals when on land. They were found to behave like typical cold-water animals: the heavy blubber and fur insulation causes over-heating from activities, even at environmental temperatures of around 10° C., with death from heat prostration common. Heat dissipation is performed by the flippers (which have neither fur nor blubber) and through respiration. Pups, which are less well insulated rarely pant but often shiver. The bearing of these conditions to the aquatic and terrestrial distribution, flipper size, vasomotor activity and location of testes, is discussed. Work was carried out in the Pribilof Islands in summer 1951, in collaboration with U.S. Fish and Wildlife Service. Copy seen: DI.

BARTLETT, EDWARD L. (BOB), 1904-, see U. S. Congress. Air carrier certificates . . . Hearings . . . 1956. No. 48584.

BARTLETT, G. S., see Seamon, L. H., and G. S. Bartlett. Climatological extremes. 1956. No. 47868.

BARTLETT, ROBERT ABRAM, 1875–1946, see Explorers Club. Told . . . Explorers Club . . . tales . . . 1931. No. 44832.

43890. BARTLETT, ROSCOE GARDNER, 1926—, and M. A. MILLER. The adrenal cortex in restraint hypothermia and in adaptation to the stress of restraint. (Journal of endocrinology, Oct. 1956. v. 14, no. 2, p. 181–87, illus., tables.) 16 refs.

Experiments with rats showed a decrease in adrenal ascorbic acid and in cholesterol during restraint hypothermia. Adrenalectomized animals, exposed for a week to light restraint could not maintain their body temperature when restrained in the cold; but administration of cortisone, alone or with DCA, enabled such animals to maintain body temperature in cold environment.

Copy seen: DNLM.

43891. BARTLETT, ROSCOE GARD-NER, 1926—, and others. Comparative effect of restraint (emotional) hypothermia on common laboratory animals. (Physiological zoology, July 1956. v. 29, no. 3, p. 256–59, illus., table.) 6 refs. Other authors: V. C. Bohr and R. H. Helmendach.

An investigation on body temperature drop, in cold environment, of unrestrained, restrained and dead animals. Mice were thermolabile in restrained (as well as in unrestrained) conditions; hamsters were the least thermolabile. The question of emotionality as related to body temperature is discussed. **Copy seen:** DLC.

43892. BARTLETT, ROSCOE GARDNER, 1926—, and others. Gross muscular activity and temperature regulation in the restrained rat. (Society for Experimental Biology and Medicine. Proceedings, July 1956. v. 92, no. 3, p. 457–62, illus.) 7 refs. Other authors: V. C. Bohr, G. L. Foster, M. A. Miller, and R. H. Helmendach.

Account of experiments indicating that body temperature of animals restrained in the cold, is positively correlated with gross body movement. It is therefore concluded that restraint hypothermia cannot be explained as being due to restricted muscular activity.

Copy seen: DNLM.

43893. BARTLETT, ROSCOE GARD-NER, 1926— . Stress adaptation and inhibition of restraint-induced (emotional) hypothermia. (Journal of applied physiology, May 1956. v. 8, no. 6, p. 661–63, table.) 7 refs.

Account of experiments with rats exposed to dual stress of cold and restraint. The rapidity of adaptation to them indicates a familiarity or emotional component in the process. However, this adaptation was lost unless "reinforced" by application of stress. Such adaptation may also protect against temperature drop in this (emotional) hypothermia. Copy seen: DLC.

BARTLETT, ROSCOE GARDNER, 1926 , see also Lavenda, N., and R. G. Bartlett. Distribution of circulating eosinophils . . . cold . . . 1956. No. 46269.

BARTLETT, ROSCOE GARDNER, 1926—, see also Lavenda, N., and others. Leucocyte changes . . . rodents exposed to cold . . . 1956. No. 46270.

BARTSCH, A. F., see Towne, W. W., and others. Evaluation of sewage lagoons . . . 1956. No. 48447.

43894. BARTSCH, PAUL, 1871—. Descriptions of new mollusks of the family Vitrinellidae from the west coast of America. (U. S. National Museum. Proceedings, Jan. 9, 1911. v. 39, no. 1785, p. 229–34, plates 39–40.)

Contains descriptions of six species of this family, among them Leptogyra alaskana n. sp. obtained at Port Graham, Alaska. Copy seen: DLC.

43895. BARTSCH, PAUL, 1871—. The west Pacific species of the molluscan genus *Aforia*. (Washington Academy of Sciences, Journal, Dec. 15, 1945. v. 35, no. 12, p. 388–93. 14 illus.)

Contains a key to the species and descriptions of seven, four new to science.

A. okhotskensis (southern Okhotsk Sea), is included.

Copy seen: DLC.

43896. BARTZ, FRITZ. Rund um die Alëuten. (Marine-Rundschau, July 1943. Jahrg. 48, p. 462–67, illus., map.) Text in German. *Title tr.:* Around the Aleutians.

Contains brief description of the history, climatology, geography, sociology, and economy of the Aleutian Islands.

Copy seen: DLC.

BARWOOD, A. J., see Smith, H. P. R., and others. Cold weather trials, Norway . . . 1950. No. 48084.

43897. BASHARIN, GEORGIĬ PRO-KOP'EVICH. Istoriiâ agrarnykh otnoshenií v ÎAkutii; 60-e gody xviii seredina xix v. Moskva, Izd-vo Akademii nauk SSSR, 1956. 428 p. tables (Akademiiâ nauk SSSR. Institut istorii.) Over 800 refs. Text in Russian. *Title* tr.: History of agrarian relations in Yakutia; from the 1760's to the middle of the 19th century. M. K. Rozhkova, editor.

In three parts: the first (p. 21-106) deals with the fur tax and agrarian reforms in the 1760-70's; the second (p. 107-223) with social-economic relations, and the third (p. 225-334) with agrarian relations at the end of 18th and in the first half of 19th century. Though extensively documented in printed works, the monograph is based chiefly on unpublished materials. It covers in detail the customary regulations and legislation on land use and ownership and the actual state of, and changes in agrarian relations during this period. Incidentally to the main theme, material on the ethnographic, economic, administrative and political structure of Yakutia is presented, and conditions of life generally among the main social groups of the Russian, Yakut and Tungus population are indicated. The fiscal laws based on the fur tax (asak) or the so-called "sable-fox system" (sobolino-lis'ia sistema), their (ill) effects, and their reform by the First and Second Fur Tax Commission are explained. The division of Yakutia in districts (ulus) and regions (nasleg), and the importance and functions of native chieftains or "toions" are set forth. The animal husbandry and distribution of pastures, beginning of agriculture, the economic importance of fur-animal hunting and trapping and of the fur trade, are discussed in detail and illustrated by statistical data on population, land held, taxes and on catch of fur-bearers. Supplements (12 in all) include: early description of 18 uluses and winter camps (zimov'ya) in Yakutia, among them Verkhnevilyuyskoye, Verkhneyanskoye, Ust'yanskoye, Kolymskoye, Alazeyskoye zimov'ya (p. 372-74); distribution and amount of fur tax in the Siberian provinces, including Yakutia and Kamchatka (p. 376); amount and value of the fur and ivory trade in Yakutsk in 1838-59, by year and kind of pelt, etc. (p. 390-97); fur prices in Yakutsk 1819-29 (p. 399); glossary of specific terms, p. 402-403. Approx. 150 main publications utilized are listed.

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43898. BASHARIN, GEORGIĬ PRO-KOP'EVICH. Zemel'nye otnosheniâ v ÎAkutii v konîse xviii – pervoî treti xix v. (Akademiîa nauk SSSR. Istoricheskie zapiski, 1950. t. 35, p. 127–69, tables.) 17 refs. Text in Russian. *Title tr.*: Land tenure in Yakutia at the end of the 18th - first third of the 19th century.

Deals with the problems of land ownership in Yakutia resulting from the agrarian reform of 1760-1770 which made land tenure by natives dependent upon payment of the fur tribute (fasak). The land allotments to tribute-exempt: resettled Russian peasants, Yakutsk-Irkutsk postal tract employees, priests and monasteries, Cossack soldiers, etc.; and to the tribute-paying Yakuts and Tungus are described. The inequities arising from land distribution based on the kind of fur (sable or fox) delivered, the artificial creation of a landed (rich) and landless (poor) class of natives, etc., are discussed. Selected statistics on the native peoples and on Yakut communities (nasleg) according to the 1822-23 census are tabulated: population, head of cattle, arable land and pastures, total tribute and tribute per person, percentage of landless natives, etc. Data on animalbreeding Tungus clans are given, and the transition from a hunting and fishing to an agrarian economy is noted.

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43899. BASHARINA, L. A. Issledovanie gazoobraznykh produktov vulkanov Klûchevskogo i Shivelucha. (Akademiña nauk SSSR. Kamchatskaña vulkanologicheskaña stanfsiña. Bûlleten', 1949, no. 16, p. 17–19, tables.) Text in Russian. Title tr.: Investigation of the gaseous products of Klyuchevskiy and Shiveluch volcanoes.

Tabular results of author's analysis of chemical components of gas ejected during Sept.—Dec. 1948 by Shiveluch volcano and by the lateral vents Tuyla, Bilyukay, Yubileynyy and Apakhonchich of Klyuchevskaya Sopka. *Copy seen:* DLC.

43900. BASHARINA, L. A. Issledovanie gazoobraznykh produktov vulkanov Klûchevskogo i Shivelucha v 1946–1947 gg. (Akademiña nauk SSSR. Kamchat-

skafā vulkanologicheskafā stanfsifā, Būlleten', 1953, no. 18, p. 31–40, tables.) 4 refs. Text in Russian. *Title tr.:* Investigation of the gaseous products of Klyuchevskiy and Shiveluch Volcanoes in 1946–47.

Results of temperature observations and of chemical analysis of gas samples taken from fumaroles of Shiveluch volcano and its lateral cones Suyelich and Karan, also from the lateral cones Tuyla, Bilyukay, Apakhonchich and Yubileynyy of Klyuchevskiy Volcano. The chemical analysis was done partly in field laboratories set up on the slopes of the volcanoes.

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43901. BASHARINA, L. A. Nablûdenifâ za sostofâniem fumarol pobochnykh kraterov vulkanov Klûchevskogo i Shivelucha v 1948–1949 gg. (Akademifâ nauk SSSR. Kamehatskafê vulkanologicheskafê stanfsifâ. Bûlleten', 1953, no. 19, p. 51–59, diagrs., tables.) 4 refs. Text in Russian. Title tr.: Observations of the state of fumaroles of lateral craters of volcanoes Klyuchevskiy and Shiveluch in 1948–1949.

Summarizes data on the fumarolic activity of lateral cones Tuyla, Bilyukay, Apakhonchich, Zavaritskiy and Levinson-Lessing of the Klyuchevskaya Sopka, also of old cones and Suyelich of the Shiveluch Volcano. The weak and diminishing eruptive activity of Suyelich is noted.

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BASHARINA, L. A., see also Menfallov, A. A., and others. Izverzhenie Shivelucha letom 1946 g. 1949. No. 46707.

BASHARINA, L. A., see also Naboko, S. I. Novyť pobochnyť krater Klíúchevskogo . . . 1949. No. 46917.

BASHMURINA, N. I., see Belov, M. I. Arkticheskoe moreplavanie . . . 1956. No. 43944.

BASKERVILLE, F. W., see Whittingham, D. G. V., and F. W. Baskerville. Wetcold trials . . . 1954. No. 48945.

BASOV, M. M., see Anson, A. A., and others. Ekonomicheskafa geografifa Sibiri . . . 1928. No. 43687.

43902. BASS, DAVID ELI, 1912—, and A. F. HENSCHEL. Responses of body fluid compartments to heat and cold. (Physiological reviews, Jan. 1956. v. 36, no. 1, p. 128–44, table.) 106 refs. Contains a review and discussion of

literature dealing with "the effects of heat and cold on body fluids, with strong emphasis on responses of man." Sections on the role of seasonal climatic change and of heat, are followed by a chapter on the effects of cold exposure, including acute and prolonged cold exposure, and on acclimatization. Each section closes with a discussion and summary and the paper as a whole with "a few of the many unanswered questions that have been raised."

Copy seen: DNLM.

BASS, DAVID ELI, 1912—, see also Axelrod, R., and D. E. Bass. Electrolytes and acid-base balance in hypothermia. 1956. No. 43788.

BATA, A., see Šahović, K., and others. Iskoristljivost glikoze . . . 1956. No. 47753.

BATALIN, A. M., see Stotsenko, A. V., and A. M. Batalin. Gidrometeorologicheskie osnovy dobychi kontsentrata solel . . . 1956. No. 48220.

43903. BATES, CHARLES CARPENTER, 1918—. Current status of sea ice reconnaissance and forceasting for the American Arctic. [Washington, D. C., 1956.] 20 p. table. Mimeographed. 13 refs.

Reconnaissance and long-range forecasting procedures developed during the last three years in the North American Arctic are described in detail. Each step in the preparation of the forecast is discussed, including ice-potential computations based on known temperature and salinity conditions in the upper 100 m. of water in autumn; analysis of recent climatic data, historical ice data, and of recent ice formation. The results of long-range ice outlooks for the Newfoundland-Northwest Greenland area for mid-1956 are given, indicating delayed ice disintegration and slower opening to navigation in the Melville Bay area, lesser pack-ice thicknesses off the coast of Labrador, improved ice conditions south of Davis Strait, and accelerated northward recession of the southern ice limit during June-July.--From SIPRE. Copy seen: DN-HO (Case 15).

43904. BATES, CHARLES CARPENTER, 1918—, and B. FONOROW. Ice observations by the 58th Weather Reconnaissance Squadron. [Cambridge, Mass.? 1956.] 6 p. 2 graphs, 6 tables. Typescript.

Describes preliminary analysis (Aug. 6-17, 1956) of time-lapse color photography taken by this Squadron during Ptarmigan Flights north of Alaska in 1952, 1954, and 1955, also oblique still photography taken in 1950 and 1951 and associated track charts. Methods of analysis are described. "Only one phase of the study could be completed in the time available, that of determining an index of miles between leads or other ice openings based on flight paths 18 to 200 miles in length." Conclusions are discussed and recommendations made for future photographic methods and analysis Copy seen: DN-HO.

43905. BATES, CHARLES CARPENTER, 1918—. Marine meteorology at the U. S. Navy Hydrographic Office, a resume of the past 125 years and the outlook for the future. (American Meteorological Society. Bulletin, Dec. 1956. v. 37, no. 10, p. 519–27, 2 charts, 2 tebles).

2 tables.) 11 refs.

Surveys the meteorological program since 1830 when the Office was founded as Depot of Charts and Instruments, and lists some of the meteorological charts and other publications issued between 1844 and 1955, many on arctic areas. Because of greatly increased ice forecasting requirements, the Applied Oceanography and Technical Services Branches of the Division of Oceanography maintain a "running" climatic picture of the North American Arctic, with special attention to air temperatures and wind stresses. Five and 30-day ice forecasts are made. Ice forecasting stations are listed, and future needs noted. Copy seen: DGS.

43966. BATES, CHARLES CARPENTER, 1918- . Sea ice and its relation to surface supply problems in the American Arctic. [Washington, D. C., 1955.]

21 p. Mimeographed. Ref.

Describes development of ice-forecasting techniques and services by the U.S. Hydrographic Office from World War II to 1955; aerial ice reconnaissance and ice conditions in the SUNEC area (Newfoundland north to Alert, Ellesmere Island), and the Canadian and Alaskan Arctic in 1954, also summer-early fall 1955, particularly in Beaufort Sea. Study of sea ice properties and its loading capabilities for aircraft, a U.S.-Canadian project at Hopedale, Labrador, is reported, also survey work to facilitate shipping to DEW Line sites in 1955. Recommendations are made for further study in sea

ice physics and for understanding of the polar pack boundary.

Copy seen: DN-HO.

BATES, CHARLES CARPENTER, 1918–, see also Winchester, J. W., and C. C. Bates. Meteorological . . . sea ice . . . Chukchi Sea . . . 1955. 1956. No. 48989.

BATTLE, WALTER RAVENHILL BROWN, 1919–1953, see Thompson, H. R., and B. H. Bonnlander. Temperature measurements . . cirque bergschrund . . . . 1956. No. 48377.

43907. BAUER, ALBERT, 1916. Über die in der heutigen Vergletscherung der Erde als Eis gebundene Wassermasse. (Eiszeitalter und Gegenwart, Aug. 1955. Bd. 6, p. 60–70, diagrs., tables, 3 textmaps.) 26 refs. Text in German. Summary in French and English. Title tr.: The present glacier ice cover of the earth.

The total volume of glacier ice on the earth is estimated at 21,740,000 cu. km. by extrapolating the conditions of the Greenland icecap. The Greenland inland ice covers 12 percent of the earth's glaciation, that of the Antarctic 85 percent. A map showing four altitude profiles through Greenland, and hypsographic curves of the surface and base of the Greenland inland ice are included. Data of a number of investigators on the surface area, mean thickness and volume of ice in Greenland, the Antarctic and other glaciers are tabulated and graphed. Based in part on data of the P.-E. Victor expeditions of 1948-1951.

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BAUER, ALBERT, 1916-, see also Robin, G. de Q., and others. The future . . . glaciology . . . 1956. No. 47616.

43908. BAUGH, BARNEY. The search for bergy bits and growlers. (All hands, Dec. 1956. no. 479, p. 22–25, illus.)

The training and experiences of naval enlisted aerial ice observers are described. The men are given an intensive five-week course at Lakehurst, N. J., followed by assignments to reconnaissance squadrons equipped with PZV-type aircraft. Both short- and long-range flights are made during the summer season. These taper off toward the end of the year but continue throughout the winter in order to maintain accurate positioning of the southern edge of the pack ice.

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BAUM, WERNER A., 1923-, see Rosenthal, S. L., and W. A. Baum. Diurnal . . . surface pressure . . . North Atlantic . . . 1956. No. 47672.

BAUMGARDNER, F. M., see Mardoian, F. M., and others. How to winterize construction equipment. 1956. No. 46617.

**43909. BAXTER, DOW VAWTER, 1898**- . Skogar saga. (Pacific discovery, May-June 1956. v. 9, no. 3,

p. 9-14, 8 illus., text map.)

Popular account of author's visit in Iceland to new forests, seed and transplant beds grown from tree seed from similar climatic zones in Alaska. Remnants of once extensive birch forests are the only natural tree cover in Iceland. Some native and Alaskan birch is being grown for use as a cover crop in the conifer nurseries. The new trees are primarily conifers, eventually to provide shelterbelts and post timbers: the newlydescribed Alaskan hybrid spruce Picea X lutzii Little (from P. sitchensis and P. glauca) also lodgepole pine, and Sitka spruce, among others. Siberian larch from Arkhangel'sk planted in 1938 is now yielding fence post timbers.

Copy seen: DGS.

43910. BAZHOV, N. Pesnía o druzhbe. (Sovetskaía muzyka, July 1956. god 20, no. 7, p. 23–25.) Text in Russian. *Title* 

tr.: Song on friendship.

Review of a new oratorio "Ysyakh" ("Northern spring festival"), composed by Grant Grigorian for the Yakut national theater and first performed in Yakutsk late in 1955. The oratorio, based on Yakut song and folklore, is analyzed and samples of the score are given. The libretto is written by Yakut poet D. K. Sivîsev (Suorun Omolloon).

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43911. BEAN, TARLETON HOFF-MAN, 1846–1916. A list of European fishes in the collection of the United States National Museum. (U. S. National Museum. Proceedings, Apr.-May 1879. v. 2, p. 10–44.)

Contains about 350 names with numbers of specimens, localities, and the names of collections and depository places. Some species native to northern Scandinavia and Greenland and Barents Seas are included.

Copy seen: DLC.

BEARD, JOHN, see Lamont, S., and others. Hypothermia. 1955. No. 46226.

43912. BEARD, THOMAS N. Runoff in the Nuna Ramp – Twin Glacier area. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, pub. 1954, p. 105–117, illus., diagrs.)

"Investigations were made along the ice margin at Nuna Ramp (northwest Greenland) and adjacent areas to the south and north during the summer field season (1953) to determine the relation between run-off fluctuations and weather conditions, to observe stream characteristics as they may affect transportation, roads, and bridges, and to find the most practical route to the icecap. The total discharge for the area from July-Sept. was calculated as 567 million cu. ft. of water. During peak discharge in Aug., most streams issuing from the ice became impassable for three to eleven days. Run-off was found to be a function of ablation, which in turn is controlled by air temperatures (degree-hours above freezing). Run-off decreased sharply after Aug. 15 due to the disappearance of the snow cover and the slower rate of melting of ice. Only 15 percent of the run-off occurs between midnight and 6 a. m. due to the decrease in air temperatures at night, making it the most favorable period for transportation. Two definite watershed areas were found: one served by Gash River, the other by Twin Glacier River. The divide between these areas runs up the center of Nuna Ramp and is the best drained access route. The drainage pattern in the ice is subparallel, with few distributaries and tributaries." -SIPRE. Copy seen: CaMAI.

43913. BEARTH, PETER. Über Alkaligesteine aus Nord-Ost-Grönland. (Schweizerische mineralogische und petrographische Mitteilungen, 1956. Bd. 36, Heft 2, p. 614–17.) Text in German. *Title tr.:* On the alkali rocks of northeast Greenland.

Describes the Werner Bjaerge massif (72° N. 25°08′ W.) whose igneous rocks belong to a group of late Cretaceous to Tertiary(?) intrusions which occur on both sides of the outlet of Kong Oscars Fjord. They are found in a post-Caleonian fault zone, filled with Paleozoic to Cretaceous-Tertiary sediments. Petrology of the alkali igneous rocks is described in some detail. A more exten-

sive work on the Werner Bjaerge will be published in Meddelelser om Grønland.

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43914. BEAVER, C. MASTEN. Fort Yukon trader; three years in an Alaskan wilderness. New York, Exposition Press, 1955. 185 p. illus.

Recounts sojourn of author and wife at Fort Yukon (66°34′ N.145°18′ W.) where he was assistant to manager of the Northern Commercial Company trading post, 1943–1946. Indians and whites of the village, their attitudes towards each other; the educational facilities, hospital, TB problem are described. Yukon breakup and flood in spring 1943, daily trading routine throughout the year, role of the bush pilot and Yukon river boats in the life of the town are treated in turn, with comments on weather, wildlife, gardening, etc. Reviewed by Douglas Leechman in Beaver, Spring 1956, Outfit 286, p. 56.

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43915. BEAVERS, WILLIAM R., and B. G. COVINO. The effect of glycine in immersion hypothermia. Ladd Air Force Base, Alaska, September 1956. 14 p. illus. tables. (U. S. Air Force. Arctic Aeromedical Laboratory. Project no. 8–7954. Report no. 1.) 7 refs.

Intravenous administration of 5 percent glycine caused a significant increase in the time required to lower rectal temperature of dogs to 26° C. Rewarming time decreased to a similar extent in the treated animals. This behavior in the experimental group is attributed to the increased heat production, due to glycine. The possibility of applying glycine as a thermogenic agent in accidental hypothermia is discussed.

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**43916.** BEAVERS, WILLIAM R., and B. G. COVINO. Immersion hypothermia: effect of glycine. (Society for Experimental Biology and Medicine. Proceedings, June 1956. v. 92, no. 2, p. 319–22, illus.) 8 refs.

Account of experiments with dogs made hypothermic by immersion in cold (8° C.) water. Intravenous administration of 5 percent glycine caused a significant increase in the time required to lower rectal temperature; total rewarming time was, on the other hand, proportionately decreased. The phenomena are attributed to increased heat production of the treated animals. The application of

thermogenic agent in accidental hypothermia is discussed. Copy seen: DLC.

BECK, E. M., see Ralli, E. P., and others. Effects of vitamin supplementation . . . cold stress . . . . 1956. No. 47509.

43917. BECKER, EDWARD COULTON, 1923 - . Revision of the nearctic species of Agrioles; Coleoptera: Elateridae. Ottawa, 1956. 101 p. 74 illus., 14 text maps. (Canadian entomologist. v. 88, suppl. 1.) 67 refs. Issued also as Contrib. No. 3350, Entomology Div., Sci. Service, Dept. of Agric., Ottawa, Canada.

Contains an historical review, notes on collecting, preserving, etc., followed by diagnostic characters of adults and larvae, phylogeny, and keys. Thirty-five species are described, of which seven are new, and A. limosus is recorded in the James Bay region and Mackenzie District.

Copy seen: DSI.

BECKER, HOWARD, 1899—, see Sanders, I. T. Societies around the world. 1956. No. 47782.

43918. BEDEL, BERNARD. Les observations météorologiques de la station française du Groenland 70°55′03′′′ N. 40°38′22′′ W., altitude 2993 m.; conditions atmosphériques en altitude du 17 septembre 1949 – août 1951. Paris, 1954. 119 p. illus., maps, charts. (Expéditions polaires françaises, 1948–1953. Resultats scientifiques, no. N, v.) Text in French. Title tr.: The meteorological observations of the French station in Greenland 70°55′03′′ N. 40°38′22′′ W., altitude 2993 m.; high altitude atmospheric conditions of 17 September 1949 to August 1951.

Upper wind and radiosonde data collected during the period are tabulated. A brief description is given of the equipment and procedures employed. Seasonal wind variations at various altitudes are depicted. Mean adiabotic charts are included for each month together with typical soundings for various air masses. Composite synoptic charts for Greenland are reproduced for a variety of weather situations. A map showing the principal meteorological stations operating in Greenland during 1949–51 is included. Copy seen: DLC.

43919. BEE, JAMES W., and E. R. HALL. Mammals of northern Alaska on the Arctic Slope. Lawrence, Kansas,

on the Arctic Slope. Lawrence, Kansas, 1956. 309 p. illus., tables, maps. (University of Kansas publications. Museum of Natural History. Misc. pub. no. 8) over 150 refs.

Account of 42 species belonging to 32 genera, including the seals and walrusses of the area. The description of each species covers the synonymy, morphology and anatomy, weight, color and color variations, distribution and habitat, associations, sexual peculiarities and differences, nests and nesting, biotic cycles, way of life, enemies, records of occurrence, etc. This is followed by keys to identification of species, and sections on characteristics of these mammals, geography and climate of the area, biotic communities, etc.

Reviewed by R. L. Rausch in Arctic, 1956 v. 9, no. 3, p. 208-209; also by J. L. Buckley and R. F. Scott, in Journal of Mammalogy, Aug. 1957. v. 38, no. 3, p. 426-29. Copy seen: DI.

43920. BEETLE, ALAN ACKERMAN, 1913- . Notes on the distribution of California grasses, II. (Leaflets of western botany, Nov. 29, 1946. v. 4, no. 12, p. 285–89.)

Includes the range extension of Koeleria cristata to Alaska and reduction of two Hulten species, K. yukonensis and K. cairnesiana, both reported for Alaska by Anderson, to synonyms of the first species; Puccinella grandis, which is commonest in coastal marshes from California to Alaska, and Trisetum cernuum (type locality: Alaska) are also discussed. Part I (1943) of this paper does not contain arctic material.

Copy seen: DA.

**43921. BEETLE, DOROTHY E.** A monograph of the North American species of *Fritillaria*. (Madroño, Jan. 1944. v. 7, no. 5, p. 133–59, 4 illus., table.) 23 refs.

Contains data on cytology, morphology and taxonomy of the genus, a key and descriptions of 17 species and two varieties. Synonyms, data on distribution and lists of specimens are given. F. camschatcensis type locality: Canada and Kamchatka) is represented from Baranoff, Kodiak, Unalaska and Sumagin Islands.

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43922. BEHAN, ROBERT L. The Eldorado gravity plant, Port Radium, N. W. T. (Canadian mining and metalurgical bulletin, Apr. 1956. v. 49, no. 528, p. 254-61, 4 illus, sketch map, diagrs.) 3 refs. Also pub. as: Canadian

Institute of Mining and Metallurgy. Transactions, 1956. v. 59, p. 154-61.

Uranium concentrates from Eldorado mine, Great Bear Lake, are products of a gravity plant and a leaching plant. The former, in operation since 1933, produces concentrates through treatment of mine ore, the latter through treatment of mill tailings (D. F. Lillie and R. Tremblay, q. v.). The pitchblende occurs as vein material accompanied by a wide variety of metallic minerals which influence gravity separation. Gravity mill operation, 1933-1955, and the present plant flow-sheet are discussed in some detail. In 1952, reclamation work started on mill tailings hitherto dumped into the lake. The floating dredge and its 24-hr. day, year-round schedule are described, especially means by which its working area is kept free of ice in winter. Transportation problems of the Great Bear Lake region and reconstruction of the mill after the fire in fall 1951 are also dealt with. Copy seen: DGS.

BEHAN, ROBERT L., see also McNiven, J. G., and others. Milling Port Radium. 1956. No. 46553.

43923. BEHLKE, CHARLES E., and B. P. GRAY. A study of floods on glacial streams. Abstract. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 65.)

Matanuska River is typical of streams deriving their largest floods from glacier melt water during very hot weather. Two plots (not reproduced) show relation of the river discharge to air temperature. Results suggest approach to study of possible floods in other glacier-fed streams.

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43924. BEHMANN, F. W., and E. BONTKE. Intravasale Kühlung; eine Methode zur Erzielung steuerbarer Hypothermie. (Pflügers Archiv für die gesamte Physiologie, 1956. Bd. 263, Heft 2, p. 145–65, illus., tables.) 24 refs. Text in German. Title tr.: Intravasal cooling; a method for obtaining controlled hypothermia.

Description of a new method enabling one to attain chosen rectal temperatures and maintain them for prolonged periods with an accuracy of 0.1° C. The cooling and control apparatus are described. The theoretical aspects of cooling by this

method are also discussed.

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43925. BEHMANN, F. W. Die Regulierung der Wärmeproduktion bei Auskühlung homoiothermer Tiere. (Naunyn-Schmiedebergs Archiv für experimentelle Pathologie und Pharmakologie, 1956. Bd. 228, Heft 1–2, p. 126–28.) Ref. Text in German. Title tr.: Regulation of heat production during hypothermia of homoiothermic animals.

Contains a discussion of the physicomathematical aspects of heat production in the hypothermic mammal (dog). "Basal," "regulatory," and "total" heat production are defined and analyzed their mutual relation formulated, and dependence on regulating factors outlined.

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43926. BEHMANN, F. W. Wärmebilanzen bei künstlicher Hypothermie; ein Beitrag zum Problem der Ökonomie des Kältezitterns. (Pflügers Archiv für die gesamte Physiologie, 1956. Bd. 263, Heft 2, p. 166–87, illus., tables.) 34 refs. Text in German. Title tr.: Heat balance during artificial hypothermia; a contribution to the economy of shivering.

Contains a comparative and mathematical analysis of heat balances in hypothermic dogs with and without thermal regulation. The animals were cooled by intravasal method to a rectal temperature of 37°-25° C., environmental conditions remaining constant. The effect of intracorporeal cold stimulus and appearance of shivering in these conditions, thermal value of shivering, heat loss, insulating value of skin; circulation, etc., are studied and discussed.

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43927. BEIRNE, BRYAN PATRICK, 1918—. Leafhoppers (Homoptera: Cicadellidae) of Canada and Alaska. Ottawa, 1956. 180 p. 1277 illus. (Canadian entomologist, v. 88, suppl. 2) 68 refs. Issued also as: Contrib. No. 3360, Entomology Div., Sci. Service, Dept. of Agriculture, Ottawa, Canada.

Contains notes on types of distribution, bionomies, and on economic importance: leafhoppers feed on mesophyll tissues of host plants, 'producing a mottling and spotting of leaves; they also transmit virus diseases. Collecting and preparing of specimens is discussed. Taxonomy and keys are given, followed by a systematic annotated list of about 480 species. Some new species, mostly of the genera Empoasca or Erythroneura, await description when the groups are revised. Synonyms, short descriptions, illustrations,

measurements, also data on habitat, distribution and host plants are supplied. Many species, native to all sections of Alaska and northern Canada, are included.

\*\*Copy seen:\*\* DSI.\*\*

43928. BEITO, OLAV T., 1901—. Norske saeternamn. Oslo, H. Aschehoug; Cambridge, Mass., Harvard University Press, 1949. xvi, 339 p. 4 maps. (Institutet for sammenlignende kulturforskning. [Publikationer.] Ser. B., skrifter 45.) 150 refs. Text in Norwegian. Title tr.: Norwegian saeter names.

In Norway, pasturage and care of cattle is carried on at a distance from the animals' winter quarters. The term "saeter", used to designate such ranges, is commonly but not necessarily a part of the name. Some 49,000 of these names are cataloged, analyzed, and grouped with respect to origin, meaning, and historic and geographic significance. There are scattered references to North Norway where nearly 600 such names are known.

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43929. BEKKER, MIECZYSLAW GREGORY. A proposed system of physical and geometrical terrain values for the determination of vehicle performance and soil trafficability. (In: U. S. Office of Ordnance Research. Interservice Vehicle Mobility Symposium, 18–20 Apr. 1955. v. 2, Papers, p. 14–28, diagrs.) 17 refs.

The physical properties of soil and snow and the geometrical properties of snow as related to locomotion are discussed. Physical values which describe soil from the trafficability point of view may be said to include angle of friction, cohesion, moduli of sinkage, exponent of sinkage, and exponent of shippage. The geometry of soil is fully described by surface obstacle height and length, and a strainstress diagram.

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43930. BEKKER, MIECZYSLAW GREGORY. Theory of land locomotion; the mechanics of vehicle mobility. Ann Arbor, University of Michigan Press, 1956. x, 520 p. illus., diagrs., graphs. 346 refs.

The physical relationship between a vehicle and its environment, particularly in off-the-road locomotion, is treated in detail on the basis of original investigations and the literature. The history and development of various vehicles, and their form as related to environment are outlined. Treatment of soil and snow

mechanics (p. 103-185) covers stability and elasticity problems; time stress, and load factors; pressure distribution in snow, under rigid structures, and in soils; plasticity problems; general snow problems (shear strength, relaxation, changes in mechanical properties, and frictional properties); elastic deformation and settling of the ground; and non-elastic settling of soils. The mechanics of wheels on various surfaces are considered, and the characteristics of crawlers on track-laving vehicles are examined (p. Skis, sleighs, and toboggans are discussed (p. 289-311) including pressure distribution beneath a ski, load-bearing capacity, sliding resistance due to snow compaction, viscous drag, dynamic resistance of sliding, total sliding and total sliding resistance, definition of snow conditions, and form of a ski. The mechanics of various motor vehicles (including tracked and amphibian vehicles, propeller-driven sleds) are considered. The trafficability of soils, vehicle performance, and the economy of locomotion, and a classification of soils and snow is given. Scale-model testing and dimensional theory are discussed. -From SIPRE. Copy seen: DLC.

BELIAEV, P. 43931. 0 laĭkakh. (Okhota i okhotnich'e khozialstvo, Oct. 1956. no. 10, p. 31-32, illus.) Text in Russian. Title tr.: Siberian sled dogs. Appeal for measures to keep a pure breed of this valuable draught dog. A special commission headed by F. S. IAkishin was sent to Yakutia to study the sled-dog problem in 1953(?) by the Main Administration of Hunting Trade and Preserve (Glavnoe Upravlenie Okhotnich'ego khozíalstva i zapovednikov).

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BELÂEV, V. I., see Kolesnikov, A. G., and V. I. Belâev. O kristallizatsii . . . vody . . . . 1956. No. 46045.

43932. BELÂEVA, A. Pushnoe khozîa-Istvo Kamehatki. (Geografiîa v shkole, Jan.-Feb. 1956. god 19, no. 1, p. 20–23.) Text in Russian. *Title tr.:* Fur trade in Kamehatka.

Notes former depletion of fur resources in Kamchatka in comparison with the present conservation policy; destruction of 700,000 seal skins by Russian-American Company in 1803 for price support is mentioned (p. 22). The Commander Islands seal herds and silver fox population and the Kamchatka sable are

recovering. Importance of the fur trade ("soft gold") for the economy of collective farms in Kamchatka is stressed.

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43933. BELÎANIN, G. Morskie kotiki. (Smena, May 1956. god 33, no. 10, p. 24, illus.) Text in Russian. *Title tr.:* Fur seals.

Photo. of rookeries on Tyuleniy Island with a note on habits of fur seal.

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43934. BELIKOV, V. Noril'sk, dalekafa zemlfa. (Molodezh' mira, Dec. 1956, no. 12, p. 11 and 23, illus.) Text in Russian. *Title tr.:* Noril'sk, the far country.

First impressions of a group of Soviet youth sent from Moscow to work at Noril'sk, "the first town built in the permafrost region," the non-ferrous metallurgical center. The town's five-story houses, asphalt-paved streets, electricity, hot-houses, etc. are noted. The photographs include a general view of the central part of the town.

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43935. BELINSKIĬ, NIKOLAĬ ALEKS-EEVICH, and ÎŪ. V. ISTOSHIN. Morîa, omyvaûshchie berega Sovetskogo Soîuza. Moskva, Voennoe izd-vo Minist. oborony SSSR, 1956. 209 p., illus., ports, text maps. Text in Russian. *Title tr.*: Seas along the coast of the Soviet Union.

Popular presentation for the "mass reader" of the geography, climate, oceanography and exploration of the Russian seas. Their currents, tides, salinity, water temperature, ice conditions, fluctuation of level, etc., are explained. The marine fauna, game and industrial animals are described. The various seas are thus treated in turn, including the Okhotsk (p. 33-43), Bering (p. 43-50), and those of the Arctic Ocean (p. 51-118) viz., the Chukchi, Eastern Siberian, Laptev, Kara, Barents, and White Sea.

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43936. BEL'KEVICH, P. I., and N. S. KOSTIŪK. Osnovnye napravleniia nauchnoi defatel'nosti i rezul'taty issledovanii instituta torfa AN BSSR. (Akademiia navuk BSSR, Minsk. Instytut torfa. Trudy, 1955. t. 4, p. 5–19, illus., table.) Text in Russian. Title tr.: Main directions of the scientific activity and research results of the Peat Institute of the White Russian Academy of Sciences. Economic review of various methods

and machines for excavation of peat deposits. Emphasis is on efficient production and practical performance of various peat products, such as: blocks (bricks), strips, cylinders, crumbs (loose), brickets, etc. Each method and the materials were subjected to laboratory study and final evaluation at experimental stations. Attention is given also to the gasification and coking processes of peat at various stages of production and to the use of by-products for fertilizers or other agriculture and construction (insulation) purposes.

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43937. BELL, FREDRICK HEWARD, 1902-. The incidental capture of halibut by various types of fishing gear. (International Pacific Halibut Commission. Report 1956. no. 23, p. 1-48, tables. map.) 16 refs.

Information is presented on regulations regarding incidental catching of halibut; capture in salmon trollers, mortality and wastage; capture by trawlers; size of halibut caught by trawlers and their survival. Proposals for controlling incidental capture are put forward and discussed.

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43938. BELL, FREDRICK HEWARD, 1902—, and J. L. KASK. Lampris regius (Bonnaterre), the opah or moonfish from the North Pacific. (Copeia, May 10, 1936, no. 1, p. 54-56, illus.) 7 refs.

Contains a table of comparative counts and measurements of three specimens of this fish (from Alaska, Oregon and Washington). The Alaskan specimen was captured by the halibut vessel Bernice, off Icy Bay (approx. 59°24′ N. 141°42′ W.) at 125 fathoms. The find extends greatly the known range of this species.

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**BELL, G. D.,** see Collins, H. B. The T 1 site . . . 1956. No. 44425.

BELL, GORDON B., Jr., see Robinson, E., and G. B. Bell. Low-level temperature structure . . . ice fog . . . 1956. No. 47618.

BELL, JAMES FORD, see Minnesota University. The Strait of Anian . . . maps . . . 1956. No. 46773.

BELL, JAMES MACKINTOSH, 1877–1934, see Alcock, F. J. Zinc and lead . . . Canada. 1930. No. 43558.

43939. BELLMAN, SVEN, and J. ADAMS-RAY. Vascular reactions after experimental cold injury; a microangiographic study on rabbit ears. (Angiology, Aug. 1956. v. 7, no. 4, p. 339–67, illus., tables.) 25 refs.

A study on the effects of rapid and slow thawing following a standard cold injury. Rapid thawing was found to be less injurious than the slow method. Vascular reactions during various periods after the injury are described in detail.

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**43940. BELLOMY, M. D.** The prodigious blue whale. (Frontiers, Dec. 1956. v. 21, no. 2, p. 47, 64–65 illus.) **Ref.** 

Brief popular description of the blue, or sulphur-bottom, whale, its physical characteristics, feeding habits, migrations, speed, young, intelligence, length of life; the modern whaling industry.

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43941. BELMONT, ARTHUR DAVID, 1920— . Lower tropospheric inversions at ice island, T-3. Montreal, Aug. 1956. 6 p. l., 57, [42] l. diagrs., charts, map. (McGill University. Arctic Meteorology Research Group. Publication in Meteorology no. 4.) 45 refs. Scientific report no. 2, contract no. AF19(604)-1141; research sponsored by Geophysics Research Directorate of the U. S. Air Force Cambridge Research Center.

Contains results of an analysis of thermal inversions occurring below 700 mb based on the first two years of radiosonde observations made from T-3. The inversion was selected because it is one of the most characteristic features of the structure of the arctic atmosphere. An objective classification system for inversions is introduced to permit exact determinations of type, magnitudes of component layers, and frequencies of occurrence. Some new relationships of inversion characteristics are presented, and a general qualitative theory is suggested to explain the differences found with earlier theories.

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BELOKONOV, K., see Rumantsev, N. M. Pobeda sovetskoj armii v Zapolfar'e . . . 1955. No. 47702.

43942. BELOPOL'SKIĬ, L. O. Sroki nachala matsekladki u morskikh ptits i opredelmushchie ikh faktory. (Zoologicheskii zhurnal, Oct. 1956. t. 35, vyp. 10, p. 1522-34, 6 text maps, 4 tables.)
32 refs. Text in Russian. Title tr.:
The onset of egg-laying in sea birds, and

factors influencing it.

Dates of the beginning of the egg-laying period are tabulated for various sea birds: Uria lomvia, Cepphus grille, Rissa tridactula, Somateria mollissima and Larus hyperboreus in the Barents Sea (Sem'-Ostrovov, Murman coast, Novava Zemlya, etc.) Availability of high-calorie food seems to be the most important factor, cold and warm sea currents are considered next in importance. Air temperature, solar radiation, and length of the period of light also have some influence, but they cannot be considered determining factors. The observations were made during 1935-1950. Copy seen: DLC.

43943. BELOUS, I. S. Pantovoe olenevodstvo i pushnoe zverovodstvo na Dal'nem Vostoke. (Dal'nii Vostok, Nov.-Dec. 1956. god 24, no. 6, p. 149-52) Text in Russian. Title tr.: Deer raising (the spotted or maral deer) and fur farming in the Far East.

Discusses the development and short-comings of animal breeding in the Maritime Province. Wastes from the North Pacific whaling industry could be utilized for feeding foxes and other fur animals but for lack of transportation.

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BELOUSOV, VLADIMIR VLADIMIRO-VICH, see Savarenskii, E. F. Izuchenie seismichnosti . . . 1956. No. 47805.

43944. BELOV, MIKHAIL IVANOVICH. Arkticheskoe moreplavanie s drevneľshikh vremen do serediny xix veka. redaktsief IA. IA. Gakkelfa, A. P. Okladnikova, M. B. Chernenko. Moskva, Izd-vo "Morskol transport," 1956. 592 p., illus., ports, tables, facsims., maps(5 fold.), plans. Errata slip. Over 400 (On added title: Arkticheskii refs. nauchno-issledovateľskiľ institut Glavnogo upravlenifa severnogo morskogo puti Ministerstva morskogo flota SSSR. Istorifa otkrytifa i osvoenifa severnogo morskogo puti, tom 1.) Text in Russian. Title tr.: Arctic seafaring from ancient times to the middle of the 19th century. Edited by IA. IA. Gakkel', A. P. Okladnikov, and M. B. Chernenko.

First volume of the History of the discovery and utilization of the Northern Sea Route, a work projected in several volumes (cf. p. 5-6) under auspices of the Arctic Institute and in preparation

by a group of its scientists. This volume is in two parts: I, The beginning of the arctic seafaring; geographical discoveries in the North in the 15–16th centuries (chap. 1–13, p. 21–224); II, Exploration of the arctic seas in the 18th and the first half of 19th century; attempts to establish regular transportation on the Northern Sea route (chap. 14–22, p. 227–514).

Pt. I outlines history of Russian expansion in the European and Asiatic North, including early expeditions westward and eastward of the White Sea, penetration to northwest Asia, conquest of Siberia, rise and fall of Mangazeva and Turukhansk; appearance of Russians in Taymyr and expansion to the Lena basin; first voyages in the East Siberian and Chukchi Seas and the expedition of Dezhnev; penetration to the Okhotsk Sea and conquest of Kamchatka. Early Russian boats (lod'a, koch, etc.) are described, and their adaptation to arctic seas is given in detail in chapter on arctic shipbuilding (p. 188-215). Pt. II deals with expeditions sent to investigate the northern maritime areas of Europe and Asia, including IA. A. Elchin's expedition of 1716-1720 to Kamchatka ("Bol'shoi Kamchatskii narad"), the so-called first Bering Expedition 1725-1730, expeditions of Shestakov and Pavlutskii, Fedorov and Gvozdev; the Great Northern (or second Bering) Expedition and achievements of its various parties; round-the-world voyages to Kamchatka and Alaska; investigations of Novaya Zemlya by Chirakin, Rozmyslov, Ludlov and Pospelov, Lazarev, Litke, Pakhtusov, Baer, TSivol'ka and Moiseev: exploration of the northern seas and their coasts by Shalaurov, Liakhov, Andreev, Leont'ev, Billings and Sarychev, Ivanov, P. Kruzenshtern, Anzhu, Vrangel' and Matûshkin; journeys of Gedenshtrom and Middendorff, etc. This concise but detailed chronicle is based to a large extent on unpublished materials; each stage of the gradual Russian expansion is thoroughly documented and the book is a reference source for its subject. Hitherto little known events have special attention as, for instance, I. B. Sindt's expedition to the northwest coast of America in 1764-1767 (p. 417-21).

Appended are: a chronology to 1860 (p. 521-33); list of basic (Russian) publications on the "precapitalistic" period (over 400 items); archives with principal arctic collections; personal names (ca.

1,500) and geographic indexes. Illus. include reproductions of many early and unpublished maps. N. I. Bashmurina participated in preparation of the chapter (22) on the first half of XIX century, and of the appendices.

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43945. BELOV, N. A. Results of the study of bottom deposits. Washington, D. C., 1956. 37 p. diagr., map, tables. (In: Somov, M. M. Observational data . . . drifting station 1950–1951, pt. 4;

translated by David Kraus.)

Account of investigation of bottom cores collected by drifting station North Pole-2 in the Arctic Basin over an area and period as in Brodskii and Nikitin's report on the hydrobiology, q. v. Information and data are presented on the coring equipment and technique, and processing methods applied: granulometric, mineralogical, physical, chemical and microfaunistic. Detailed results obtained by these methods are presented in appended tables (paged 489-532 from the original Russian edition) which also give information on the general character of deposits at each station. The course of the drift permitted study of the changes in sediments on passing from the continental slope to the deep sea, and revision of our knowledge on their distribution and that of the extent of the continental slope in general. The age and physicogeographic changes in the sediments were also determined. Copy seen: CaMAI.

BELOV, N. V., see Volkov, P. A., and N. V. Belov. Metod izvlechenin okisi kal'sin iz apatita. 1933. No. 48796.

43946. BELOZEROV, PETR IGNAT-EVICH. K voprosu o rasprostranenii na sever ėlodei kanadskoi. (Botanicheskii zhurnal, Feb. 1956. t. 41, no. 2, p. 262–63.) 8 refs. Text in Russian. *Title tr.*: On the question of distribution of *Elodea canadensis* in the North.

Contains data on the speedy expansion of this introduced plant which now inhabits southern and western European Russia and the Far East. It is spreading rapidly northward: has been encountered in Vologda province and along some tributaries of Northern Dvina River; probably it has reached already the shores of the White Sea.

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43947. BELOZOROV, A. T. Kukuruza v Omskoĭ oblasti. (Agrobiologiâ, Mar.-

Apr. 1956. no. 2 (98), p. 139-44, tables.) Text in Russian. *Title tr.:* Corn in Omskaya Oblast'.

Notes increase of area in corn in this west Siberian province: two thousand hectares in 1953, 29,000 in 1954, and over 250 thousand hectares in 1955. Corn raising methods adapted to the climatic and soil conditions of the area are discussed.

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43948. BELYKH, F. I. Predlozhenie po usovershenstvovaniû ledovogo bura GGI-47. (Meteorologiâ i gidrologiâ, Nov.-Dec. 1953, no. 10, p. 53-54, diagr.) Text in Russian. *Title tr.:* Improvements in the GGI-47 ice drill.

Shortcomings of the original drill are noted: heavy pressures required for operation, low drilling speed, etc. Modifications were made by increasing the angle of the ice-cutting edge from 20° to 35°-40° and by rounding the formerly straight edge in order to increase speed. The drilling of a hole in a 68-cm. ice cover required 56 drill revolutions after the modifications compared with 98 before. The number of holes drilled increased from 100 to 300 daily.

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43949. BEN, MAX, 1926—, and others. Hepatic hypothermia and arterialization in ischemic shock following temporary occlusion of the thoracic aorta. (Surgical forum, 1956. v. 6, p. 107–111, table.) 11 refs. Other authors: W. M. Parkins and H. M. Vars.

Hepatic hypothermia (liver 20°, blood 24°, rectum 30° C.) with liver arterialization, improved the morbidity and survival time as compared with normothermic controls. Hemoconcentration and hypotension were also not as severe as in controls; bloody diarrhea was nearly absent and paralysis of the hind legs was not observed.

\*\*Copy seen: DNLM.\*\*

BENAD, G., see Frohberg, H., and others. Vergleichende Tiefkühlversuche . . . . Tumor . . . 1955. No. 44986.

43950. BENCINI, ADRIANO, and others. Studi sulle possibilità di ridurre il consumo tessutale di ossigeno nei mammiferi, 1; saggio sperimentale sul ratto dei vari trattamenti suggeriti per provocare l'ipotermia. (Minerva anestesiologica, Oct. 1955. anno 21, no. 10, p. 243–50, illus.) 70 refs. Text in Italian. Summary in English. Other authors: P. Parola, G. Damia and G. Tiberio. Title tr.:

Studies on the possibility of reducing tissue oxygen consumption in mammals, 1; experimental investigations in rats on the various methods proposed for pro-

ducing hypothermia.

Account of experiments performed with the aid of cooling and various side treatments. The problems of speed and degree of cooling, rewarming, anesthesia, neuroplegic agents, etc., are elucidated and discussed.

\*\*Copy seen: DNLM.\*\*

BENCINI, ADRIANO, see also Damia, G., and others. Studi . . . ridurre il consumo tessutale di ossigeno . . . 3 . . . temperatura . . . organi . . . 1955. No. 44537.

BENCINI, ADRIANO, see also Parola, P., and others. Studi . . . ridurre il consumo tessutale ossigeno . . . 2 . . . cane . . . provocare l'ipotermia. 1955. No. 47259.

43951. BENDER, NADEZHDA ALEKS-ANDROVNA. Imena russkikh lûdel na karte mira. Moskva, Gos. izd-vo geogr. lit-ry, 1948. 158 p. ports., table, maps. (Russkie puteshestvenniki.) Text in Russian. Title tr.: Names of Russian men on the map of the world. Preface

by IU. G. Saushkin.

Popular outline of Russian geographical explorations from the 15th century till recent times, stressing the events commemorated by naming geographic Spitsbergen, features after Russians. Novaya Zemlya, the arctic and subarctic regions of Asia and Alaska, also the Arctic Basin are included among other areas. Appended (p. 87-158) is a tabulation of features (over 500) throughout the world bearing Russian names, with data on location, discovery, by whom, and for whom named. At least 250 of these features so named occur in the arctic and subarctic regions.

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43952. BENEDICT, JAMES EVERARD, 1854— . Corystoid crabs of the genera Telmessus and Erimacrus. (U. S. National Museum. Proceedings, Aug. 2, 1892. v. 15, no. 900, p. 223–30, plates 25–26.)

Contains synonyms, descriptions, lists of specimens, and data on distribution of T. cheiragonus, T. acutidens and E. isenbeckii; they were collected by W. H. Dall in 1871–74, and by the steamer Albatross in the Bering Sea, Aleutian waters and Gulf of Alaska.

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43953. BENEDICT, JAMES EVERARD,

1854- Descriptions of a new genus and forty-six new species of crustaceans of the family Galatheidae, with a list of the known marine species. (U. S. National Museum. Proceedings, Dec. 29, 1902. v. 26, no. 1311, p. 243-334, 47 illus.)

Includes descriptions of Munida quadrispina n. sp. (Sitka, Alaska), p. 269-70, Munidopsis beringiana n. sp., (Albatross station 3603) p. 279-80, and Munida sancti-pauli (St. Paul's rocks.)

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43954. BENEDICT, JAMES EVERARD, 1854— . Preliminary descriptions of thirty-seven new species of hermit crabs of the genus *Eupagurus* in the U. S. National Museum. (U. S. National Museum. Proceedings, Mar. 28, 1892. v. 15, no. 887, p. 1–26.)

Includes descriptions of 15 new species from Bering Sea and Aleutian waters.

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43955. BENGTSSON, SIMON FRED-RIK, 1860–1939. Dagsländor: Ephemeroptera. (In: Sjöstedt, Y. Insektfaunan inom Abisko nationalpark, III, pub. in. Svenska vetenskapsakademien. Skrifter i naturskyddsärenden, 1931, nr. 18, p. 56–57.) Text in Swedish. Title tr.: Mayflies: Ephemeroptera.

Lists 16 species in five families collected from Abisko National Park, mostly by K. H. Forsslund in summers 1927–1928. Dates and locations are cited with some reference to vegetation and habitat.

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43956. BENGTSSON, SIMON FRED-RIK, 1860–1939. Humlor: Bombinae. (In: Sjöstedt, Y. Insektfaunan inom Abisko nationalpark, II, pub. in Svenska vetenskapsakademien. Skrifter i naturskyddsärenden, 1931, nr. 17, p. 1–3.) Text in Swedish. Title tr.: Bees: Bombinae.

Fifteen species of bees are identified, mostly from specimens (227) collected by Y. Sjöstedt, in Abisko National Park in Aug. 1926. The vegetation where they were found is noted, mainly a stand of blooming Epilobium augustifolium. Other observation dates and localities are included.

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43957. BENGTSSON, SIMON FRED-RIK, 1860–1939. Sjösländor: Plecoptera. (*In:* Sjöstedt, Y. Insektfaunan inom Abisko nationalpark, III, *pub.* in Svenska vetenskapsakademien. Skrifter i naturskyddsärenden, 1931, nr. 18, p. 58-60.) Text in Swedish. Title tr.: Stoneflies:

Plecoptera.

Four families of Plecoptera, and small numbers of 15 species, are identified from collections made in the Abisko National Park and environs, mostly by K. H. Forsslund in summers 1928-1930. Dates. associated vegetation, and locale are cited. Copy seen: DLC.

43958. BENJAMIN. HIRAM BER-NARD, 1901-, and others. thermia by internal cooling. (Science, June 1956. v. 123, no. 3208, p. 1128-29, illus., table.) 4 refs. Other authors:

H. K. Ihrig and W. Zeit.

After discussing the disadvantages and risks of hypothermia produced by external cooling, the authors present a method of cooling the circulating blood and through it the organism of the experimental animals (dogs). Rewarming is also performed by this method, which is claimed to produce no fibrillation, shivering or shock symptoms. Copy seen: DNLM.

43959. BENNETT, R. E., and A. FIND-LAY. Voyages to Churchill. (Marine observer, July 1956. v. 26, no. 173,

p. 161-62, table.)

Contains report on the navigation and ice conditions experienced by the S. S. Essex Trader (Capt. Bennett) on two voyages to Churchill. Canada in 1955. The first voyage (from Hull) began on July 24 and the second (from London) on Sept. 1. A list of icebergs sighted on the second voyage including size, description, geographical coordinates, and distance seen by radar is included.

Copy seen: DLC.

43960. BENNINGHOFF. WILLIAM SHIFFER, 1918-, and H. C. ROB-BINS. Botanical investigations. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953,

pub. 1954. p. 119-30, illus.)
"Results are reported of botanical investigations made in relation to problems of geology and glaciology in Twin Glacier Valley, east margin of North Cap, north margin of Moltke Glacier, and Nuna Ramp, northwest Greenland; the plant species found and their distribution are described. Studies were also made on sediments contained in old ice cores taken 26-31 in, below the 15-in, layer contaminated by algal pits. Approximately 75 lb. of clear ice were collected which vielded 1 cc. of solid matter consisting of a few fragments of plant tissue. structureless humic bodies 3-20µ in diam., unidentified invertebrate animal hairs, a diatom Navicula, and mineral grains of various types, including fresh crystals resembling quartz up to 15 µ in greatest dimension, feldspar, and a few dark minerals. No pollen or spores were found. Samples of the sediment in algal pits were examined under the microscope revealing that it was composed of about equal parts of mineral and organic matter. The organic matter was largely in the form of clumps 200-400 µ in diam. of structureless humic material. Attached or enmeshed with the latter were filaments of an alga, probably one of the Hormogonales or Myxophyceae. The origin of the humus bodies is unknown, but since similar bodies have not yet been found in terrestrial deposits, it is believed that they represent residue from the algal filaments. Algal pits in excess of about 1 ft. in diam. constitute obstacles to vehicular and foot traffic on the icecap during the melting season."-SIPRE.

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BENNINGHOFF, WILLIAM 43961. SHIFFER, 1918- . Vegetation types in the greater Thule area. (In: U. S. Army. Transportation Corps. report, Operation Ice Cap 1953, pub.

1954. p. 443-46, map.)

Preliminary report on the vegetation of the district from Wolstenholme Fiord to Petowik Glacier. It consists mainly of scattered, small, creeping, matted and tufted plants on stony upland surfaces. and boggy meadows of mosses, grasses, and sedges along boulder-filled streams and in sheltered depressions. There are no trees or shrubs in the flora, and closed cover of vegetation occurs in patches that are widely separated. The vegetation is modified or controlled by geomorphic processes acting on soils: frost action, soil creep and flow, wind action, etc. Seven types for upland and five for lowland habitat are presented in table with descriptions and remarks.

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BENNINGHOFF, WILLIAM SHIFFER, 1918- , see also Hopkins, D. M., and W. S. Benninghoff. Evidence . . . interglacial interval on Seward Peninsula . . . 1956. No. 45604.

43962. BENOIT, J., and others. Apparition et maintien de cycles sexuels non saisonniers chez le canard domestique placé pendant plus de trois ans à l'obscurité totale. (Journal de physiologie, 1956. t. 48, no. 3, p. 388-91, illus.) 3 refs. Text in French. Other authors: I. Assenmacher and E. Brard. Title tr.: Appearance and maintenance of nonseasonal sex cycles in the domestic duck kept for three years in total darkness.

Immature male ducks placed in darkness developed considerable testicular activity. This varied with the season but showed shorter and irregular cycles when compared with controls. The intervention of "group factors" or possibly psychic effects in the experimental animals is considered.

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43963. BENOIT, O., and others. Augmentation et diffusion de la réponse électrocorticale à des stimuli auditifs chez le chien en hypothermie. (Journal de physiologie, 1956. t. 48, no. 3, p. 391-92.) 4 refs. Text in French. Other authors: M. Jouvet and M. Tanche. Title tr: Increase and diffusion of the electrocortical response to auditory stimuli in the hypothermic dog.

In curarized or anesthetized hypothermic animals, an increase of response to auditory stimuli was observed when compared to normothermal conditions. There was also a change in the form of the response and in its diffusion.

Copy seen: DNLM.

BENOIT, O., see also Cier, J. F., and others. La calcémie . . . 1956. 44374.

BENOIT, O., see also Cier, J. F., and others. De quelques facteurs . . . dans l'hypothermie. 1956. No. 44375.

43964. BENSCHOTER, CLARENCE A., and E. F. COOK. A revision of the genus Omophron (Carabidae, Coleoptera) of North America north of Mexico. (Entomological Society of America. Annals, Sept. 1956. v. 49, no. 5, p. 411-29, 5 illus.) 36 refs. Pub. also as: Paper No. 3395, Scientific Journal Series, Minnesota Agricultural Experiment Station, St. Paul.

Contains a discussion of this beetle genus, a key to the species and an annotated list of eleven, with synonyms, descriptions, range and lists of specimens. Among them: O. americanus, recorded in Northwest Territories (no locality, or date). Copy seen: DLC. BENSMAN, V. M., see Pokrovskii, V. M., and V. M. Bensman. Nekotorye dannye o profilaktike fibrillatsii serdtsa . . . 1956. No. 47383.

BENSON, 43965. CARL. SIDNEY, 1927- , and R. H. RAGLE. Measurements by SIPRE in 1955 on the accumulation markers of Expéditions polaires françaises in central Greenland. mette, Ill., July 1956. 1 p. l., 5, [8] l. illus., diagrs., tables. (U. S. Army. Corps of Engineers. Snow Ice and Permafrost Research Establishment. Special report 19.)

Results obtained by a six-man research party (Expedition Jello) of the Snow, Ice and Permafrost Establishment in May-Aug. 1955 are given. The group (senior author, leader) traveled generally eastward from Thule, then south to the French Central Station, then westward, terminating at a point about 180 miles from Søndrestrom Air Base. Glaciological research was the primary purpose. Ram hardness tests were taken, stratigraphic studies were made in snow pits, and accumulation markers were set. Markers placed four-five years earlier by the French were resurveyed, and all prominent markers were extended. Measurements of the relative displacement of the snow surface indicate a decrease in accumulation toward the higher elevations of the interior. Location and accumulation measurements are tabulated.

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BENTKE, KAZIMIERZ, see Bogacki, B., and others. Badania doświadczalne nad . . . 1956. No. 44067.

BENUM, PETER ALBERT, Nyare plantefunn i Nord-Noreg. New finds of vascular plants in northern Norway. (Blyttia, 1950. bd. 8, nr. 1, p. 1-11.) 20 refs. Text in Norwegian. Title tr.: New plant finds in North Norway.

Recent finds are mostly varieties spread by man, particularly evident around barracks occupied by the Germans during World War II. Whether these newcomers will persist or spread is not yet known. More than 70 species new to the region are listed with location and other data. Copy seen: DLC.

43967. BEQUAERT, JOSEPH CHARLES, 1886- . The northernmost extension of bird Hippoboscidae in the New World; Diptera. (Psyche, Sept. 1950. v. 57, no. 3, p. 113.)

"Among the many hundreds of North American flies I have seen in recent years, only half a dozen, all one species, Ornithomyia fringillina Curtis, were taken in Alaska... Takotna, 63° N. 165° W., off Hudsonian spruce grouse, Canachites c. canadensis; and Old Crow River, Timber Creek, Yukon." The same species was also taken off a junco on the Matamek River, southern Labrador Peninsula (50° 17′ N.)

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BÉRARD, E., see Clerk, N. A., and others. Modifications . . . électro-dermogramme . . . sudation et la température cutanée . . . chlorpromazine. 1956. No. 44389.

43968. BERDICHEVSKAÑA, M. E. O stratigraficheskom raschlenenii nizhne-kontinental'noï tolshchi mezozoŵ raiona srednego techeniŵ r. Vilûu. (Akademiŵ nauk SSSR. Doklady, May 11, 1954. nov. ser., god 22, t. 96, no. 2, p. 359-62.) 4 refs. Text in Russian. *Title tr.*: Stratigraphic separation of lower continental Mesozoic strata in the middle course of

the Vilyuy River.

Mesozoic formations of the Vilyuy (64°20' N. 126°26' E.) are discussed on the basis of study of faunal deposits of marine strata. Ages of strata are determined: (1) lower continental level—lower Jurassic, (2) marine level-lower and middle Jurassic, and (3) upper continental -upper Jurassic and Cretaceous. Lithologic and mineralogical studies of the deposit indicate the following three levels: sub - conglomerate, conglomerate and supra-conglomerate. These divisions are discussed in detail. Composition of the sub-conglomerate level indicates different conditions for its formation. This level can be separated from the lower continental complex. Copy seen: DLC.

43969. BEREGOVAÂ, N. A. O putîakh i sledakh zaseleniîa chelovekom territorii Alfaski. (Leningrad. Universitet. Uchenye zapiski, no. 115, 1950. Fakul'tet narodov Severa, vyp. 1, p. 57–63.) Text in Russian. *Title tr.*: Routes and traces of man's settlement of Alaskan territory.

Reviews American and Russian investigations (1926–1947) on the early settlement of Alaska and supports the theory of immigration from Asia across Bering Strait during the ice age or early postglacial period. Finds of Pleistocene and Folsom artifacts in the western United States, Alaska and Canada are noted, and the archeological excavations of: A. Hrdlička (1926 and 1929), Pennsylvania

University (1935), Collins (1937), American Museum of Natural History and University of Alaska under Fr. Rainey (1936-37), the "Campus site" excavations by the University of Alaska (1934-36) and University of New Mexico (1941), the 1942-45 excavations in central Alaska and 1944-45 in the Yukon. While these excavations left unsettled the question of origin (local or Asiatic) of Folsom and Yuma hunting implements, the 1947 excavations of N. N. Levoshin on Chukotka (cf. No. 23816) may supply the link between the ancient cultures of northeastern Asia and northwest America. Paper presented at the Northern Conference at Leningrad University, Dec. 10-14, 1947. Copy seen: DLC.

BERETTA, T., see Arezio, G., and T. Beretta. Influenza di farmaci neurovegetativolitici . . . ambientali, di temperatura. 1955. No. 43731.

43970. BEREZIN, A. M. Opyt deshifrirovaniâ lesov taezhnoï zony na fsvetnykh aërofotosnimkakh. (Geograficheskoe obshchestvo SSSR. Geograficheski sbornik, 1955, no. 7, Voprosy aërofotos''emki, p. 128–39, illus., tables.) Ref. Text in Russian. Title tr.: Interpreting colored aerial photographs of taiga forests.

Based on experiments carried out by the Laboratory of Aeromethods of the Academy of Sciences in 1953, on a forest farm of Eastern Siberia. Deals with interpretation of colored photographs for menuration of larch, cedar, pine and birch stands.

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BEREZN**Í**AK, P. A., see Moskva. Vsesofûznafa sel'skokhoz. vystavka. Pavil'on Karelo-Finskafa SSSR . . . 1956. No. 46864.

43971. BERG, EGIL. Gjødsling av myrer og grøfteplogens utvikling i Sverige. (Norsk skogbruk, Sept. 1955. Årg. 1, nr. 6, p. 213–18, 5 illus.) Text in Norwegian. *Title tr.:* Fertilization of bogs and development of the trenching plow in Sweden.

Includes reference to research in northern Sweden where phosphorus and potash have been found the most deficient nutrients in bogs.

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**43972. BERG, GÖSTA, 1903**– . Snöskor och trygor; några nya rön och iakttagelser. (På skidor, Föreningen för skidlöpningens och friluftslivets främ-

jande i Sverige. Årsbok 1953, p. 167-Title tr.: 71, illus.) Text in Swedish. Snowshoes; some new discoveries and observations.

Two main types of snowshoe are found in Sweden. Besides Scandinavia, Finland and the Baltic countries, both are in the Pyrenees, Switzerland, the German Alps and the Balkans. Snowshoes are also found in northeast Asia and in America. The snowshoe is regarded as very old but a pre-snowshoe period is thought to have existed (Gudmund Hatt and Kai Birket-Smith). John M. Cooper's views are noted: that the invention of the snowshoe occurred in various places in remote times; that people had lived in the tundra areas for no appreciable time before the snowshoe was invented. Discoveries of bog shoes in Ireland and Holland are mentioned and the question is raised of which was earlier, snowshoe or bog shoe. Copy seen: DLC.

BERG, LEV SEMENOVICH, 43973. 1876-1950. Izbrannye trudy, tom 1, istorifa nauki. Moskva, Izd-vo Akademii nauk SSSR, 1956. 395 p. illus., ports., maps (5 fold.) (Akademia nauk SSSR) Refs. Text in Russian. Title tr.: Selected works, vol. 1, history of science.

Thirty papers of this leading Soviet geographer, originally published during 1918-1951, are reprinted in this volume. They deal with Russian geographical investigations and explorations, several of them relevant to arctic studies, viz.:

Otkrytifa russkikh v Tikhom okeane (Russian discoveries in the Pacific Ocean), p. 11-26. No. 1396 and 20602A of Arctic Bibliography.

Istorifa geograficheskogo oznakomlenifa s IAkutskim kraem (The history of geographic exploration of the Yakut area), p. 27-60. Cf. No. 1385.

Pamíati IU. M. Shokal'skogo, 1856-1940 (In memory of IU. M. Shokal'skil, 1856-1940), p. 149-53. A biographical sketch of a noted geographer.

Lomonosov i pervoe russkoe plavanie dlâ otyskaniâ severo-vostochnogo prokhoda (Lomonosov and the first Russian expedition in search of the Northeast Passage), p. 154-77. No. 1396 and 20602A.

Drevnetshie svedenifa o krainem severe Sibiri, do XVII veka (Earliest information on northernmost Siberia prior to the 17th century), p. 211-19. No. 1396 and 20602A.

Pervye russkie svedenifa ob Amerike

(The earliest Russian data on America.), p. 220-24. No. 1396 and 20602A.

Puteshestviía V. L. Komarova po Kamchatke (V. L. Komarov's travels in Kamchatka) p. 249-55. No. 1396 and 20602A.

Dostizhenia sovetskoi geografii, 1917-1947 (Achievements of Soviet geography, 1917-1947) p. 265-93. No. 1381.

Puteshestvifa S. P. Krasheninnikova po Kamchatke 1737-1741 (S. P. Krasheninnikov's journeys on Kamchatka, 1737-1741), p. 294-302. No. 1403, 1396 and 20602A.

Rannie geograficheskie issledovania v Rossii (The early geographic exploration in Russia), p. 303-311, No. 33555.

Otkrytie Semenom Dezhnevym Beringova proliva, 1648-1948 (The discovery of Bering Strait by Semen Dezhnev, 1648-1948), p. 312-20. No. 1396 and 20602A.

Otkrytie Kamchatki Vladimirom Atlasovym: k 250-letifu so vremeni pokhoda Atlasova (The discovery of Kamchatka by Vladimir Atlasov; on the 250th anniversary of Atlasov's expedition), p. 321-32. Reprinted from Akademia nauk SSSR. Vestnik, 1949, no. 8.

Otkrytie russkimi severo-zapadno! Ameriki (The discovery of northwestern America by Russians), p. 360-69. Stenogram of a public lecture delivered and published in Leningrad in 1950; a popular outline of Dezhnev's expedition in 1648 and of Bering's and Chirikov's voyages in 1728 and 1741.

Numerous references to pertinent literature are offered in footnotes and in bibliographies attached to the various papers.

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43974. BERG, LEV SEMENOVICH, 1876-1950. Notes on Coregonus (Prosopium) cylindraceus (Pallas). (Copeia, May 10, 1936, no. 1, p. 57-58.)

Contains a study of the synonymy and systematics of two subspecies of this fish widely distributed in Siberia: C. c. cylindraceus (the Lena, Indigirka, Kolyma and Taymyr) and C. c. quadrilateralis occurring in the Anadyr'and rivers southward to northeastern Kamchatka, also those rivers flowing into the Okhotsk Sea; and in North America from Alaska to the Great Lakes. Four other North American species are recorded in the rivers of northeast Siberia: Thymallus arcticus signifer, Coregonus nasus, Catostomus c. rostratus and Dallia pectoralis.

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43975. BERG, LEV SEMENOVICH, 1876–1950. A review of the freshwater cottoid fishes of the Pacific slope of Asia. (Copeia, Apr. 12, 1932, no. 1, p. 17–20, 3 illus.)

Contains a key to the species and an annotated list of seven bullheads. Cottus kaganowskii n. sp. from the Anadyr' River basin in northeast Siberia, C. poecilopus, found in northern Siberian rivers from the Ob' to the Kolyma and C. minutus (Okhotsk Sea region) are included.

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AGNUS. Garnfiske i

43976. BERG, MAGNUS. Garnfiske i ei tjønn. (Ottar, Tromsø, Oct. 1956. nr. 8, p. 5–9, text map.) Text in Norwegian. *Title tr.:* Net fishing in a small lake.

Net fishing in small lakes with controlled access in northern Norway is brief, with several years' spacing. An experiment in a small lake in Hatfjelldal, Nordland, indicates that nearly all large fish can be taken in a couple of days, leaving mostly small fish. Overfishing of such lakes would remove all fish old enough to reproduce.

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43977. BERG, MAGNUS. Laks- og innlandsfisket i Troms fylke. (Ottar, Tromsø, Mar. 1955. nr. 4, p. 26–28.) Text in Norwegian. *Title tr.*: Salmon and inland fishing in Troms province.

The importance of several varieties of fish in the local economy and sport fishing is discussed. There are approx. 700 sq. km. of freshwater in the province. Several important salmon rivers are compared, chief among them are Målselv and Nordreisaelv. 

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43978. BERG, MAGNUS. Litt omkring utbyggingen av laksefisket i Finnmark. (Ottar, Tromsø, Dec. 1955. nr. 7, p. 27–32.) Text in Norwegian. *Title tr.*: Note on the development of salmon fishing in Finnmark.

Salmon fishing has become an important occupation in Finnmark, northern Norway, with the development of freezing plants and the adjustment of taxes on fishing. The Tana river basin, 15,690 sq. km. bordering Finland, produces a third of Finnmark's salmon. Improvement of the industry by the conservation association is discussed in detail.

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BERGER, W., tr., see Al'banov, V. I. Im Reich des weissen Todes. 1956. No. 43553. 43979. BERGERON, ROBERT. Preliminary report on Harveng Lake area (west half), New Quebec. Quebec, 1956. 5 p. fold. map (Quebec, Province, Dept. of Mines. Geological Surveys Branch. P. R., no. 320) 2 refs.

The area, 58°15′-30′ N. 69°45′-70° W. (about 55 mi. northwest of Fort Chimo and 16 mi. south of Leaf Lake), forms part of the Labrador geosyncline (cf. No. 33561). Bedrock consists of a series of highly folded sedimentary and volcanic rocks intruded by gabbro sills, all Precambrian in age. Major structural feature is a syncline overturned toward the west, the fold axis trending north-northwest. Mineralized zones containing pyrrhotite, pyrite, and chalcopyrite have been found in the gabbro. Investigations by three mining companies in 1955 are noted.

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43980. BERGERON, TOR. Den svenska vårens väder och klimat. (Svenska turistföreningen, Stockholm. Årsskrift, 1952, p. 239–56, 3 illus., 3 diagrs., 3 termaps.) Text in Swedish. *Title tr.:* Swedish spring weather and climate.

Characteristics and determinants are given of spring conditions in the country as a whole and in its major subdivisions. Attention is directed to the changes, with depth, in the atmosphere and the reasons therefore. Effects are noted of Atlantic and Russo-Siberian polar fronts, the spring dry season, common differences in wind direction in different sections, and proximity to cold sea water. Northern sections of the country are least affected by night frost in spring because real spring coincides with long days.

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43981. BERGERON, TOR. Vinterväder. (Svenska turistföreningen, Stockholm. Årsskrift, 1955, p. 261–78, 2 illus., 10 text maps.) Text in Swedish. Title tr.: Winter weather.

Winter in Sweden, often partly snowless, is reckoned climatologically as the time of year with average temperature below 0° C., usually not a single unit of time. The author believes that "winter" should coincide with snow cover, and so include those early weeks of "spring" when the snow is still deep. On that basis "winter" would last about 40 days, and in northwestern Lapland eight months. Three maps from the Atlas of Sweden illustrate this argument. Relationships between arctic, Atlantic, tropic, and polar air masses over Sweden, also weather conditions in various parts of the country, and differences in snow cover in Scandinavia on the last day of February in successive years (2 maps) are likewise shown.

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43982. BERGGRAV, EIVIND JOSEF, Bishop, 1884— Spenningens land; visitas-glimt fra Nord-Norge. Oslo, H. Aschehoug & Co., 1937. 130 p. plates. Text in Norwegian. Title tr.: An exciting land; a clergyman's glimpse of North Norway.

Also pub. in French, translation by Bertrand Deleste: Borée, des pecheurs des Lofoten aux Lapons des toundras. Neuchatel, V. Attinger, 1947. 182 p.,

plate, map (copy in DLC).

Reminiscences as bishop of Hålogaland from 1929, whose diocese includes northern Norway and Svalbard. Attempt is made to depict the physical and mental life of his flock, work of the church, and effects of the northern environment. The life and work of fishermen of Lofoten and the coast, the inland Lapps, in particular, religious teachings in the schools, and the Norwegian and Russian settlements on West Spitsbergen, etc., are described.

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43983. BERGMAN, A. O. Syftkarta för Gällivara-Dundret. (Svenska turistföreningen, Stockholm. Årsskrift, 1894, p. 257–61, fold. map.) Text in Swedish. Title tr.: Indicator map for Gällivare-Dundret.

Concerns view of the mountain region northwest of Gällivare from Dundret, the highest local peak. Map, provided with indicator lines to named peaks, located at correct angles, covers area roughly west to Sulitjelma, and north to beyond the lake Torneträsk.

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43984. BERGMAN, GÖRAN. Naturskyddsområden och fredade naturminnesmärken i vårt land år 1951. (Finlands natur, 1951. årg 10, p. 35–37, map.) Text in Swedish. *Title tr.:* Conservation areas and protected natural sites in our country in the year 1951.

Among the sites thus reserved (cf. map) are several in arctic Finland, including both parks for public recreation and preserves largely for use in scientific research.

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43985. BERGMAN, GÖRAN. De nya fredningsbestämmelserna för sällsynta växter och för vårblomster har trätt i kraft. (Finlands natur, 1952. årg. 11, p.

30–33.) Text in Swedish. *Title tr.*: The new protective decisions for particular plants and spring flowers have gone into effect.

In Finland certain plants are protected completely, others against gathering for commercial purposes. This announcement of full protection covers 108 species, identified by both common and scientific names, many of them arctic species.

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43986. BERGMAN, GÖRAN. Relationerna mellan naturskydd och jaktvård. (Finlands natur, 1953. årg. 12, p. 8–14, illus.) Text in Swedish. *Title tr.:* Relations between nature protection and hunting toll.

Includes discussion of the king eagle in the reindeer regions of northern Finland, expressing scepticism of depredations attributed to it.

tions attributed to it.

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43987. BERGMAN, GÖRAN. Skottpenningsfrågan. (Finlands natur, 1955. årg. 14, p. 18–21). Text in Swedish. *Title tr.:* The question of bounty.

Bounty on several predatory animals, including wolf and wolverine in Lapland, is paid from public funds. Local organizations offer the bounty in certain circumstances, e. g. on the king eagle in regions where reindeer herds are common. Protection from hunting, bounty, and the position of state and local interests in preservation, control, or eradication of species are discussed.

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43988. BERGOUNIOUX, FRÉDÉRIC MARIE, and A. GLORY. Les premiers hommes, précis d'anthropologie préhistorique. 4. éd. entièrement revue. Paris, Didier, 1952. 545 p. illus., maps, tables, graphs. Over 350 refs. Text in French. Title tr.: The first men, a summary of prehistoric anthropology. 4th ed. completely revised.

Discusses fossil man and prehistoric as well as modern races with scattered information on arctic regions. The physical characteristics of present-day Lapps (p. 41), Eskimos and Paleo-Siberians (p. 45) are given. The Quaternary glaciation of Europe including northern Scandinavia, Finland, Kola Peninsula and White Sea coast is mapped (p. 101). The fauna, flora and artifacts of the reindeer age are described (p. 227-60), the mammoth and reindeer representations reproduced. The paleolithic throwing stick (p. 238,

illus. p. 243) and the Aurignacian hutbuilding technique of the Baykal region (Mal'ta and Buret') are compared with those of modern Eskimos (p. 262). The discovery of the Aurignacian so-called "Venus" statuettes at Mal'ta (near Irkutsk) is mentioned (p. 245).

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43989. BERGQUIST, HARLAN RICHARD, 1908- . Microfossil zones in Cretaceous rocks of northern Alaska. (Geological Society of America. Bulletin, Dec. 1956, v. 67, no. 12, pt. 2, p. 1670.)

Abstract of paper submitted for Society meeting in Minneapolis, Oct. 31–Nov. 2, 1956. Study of several thousand outcrop and well samples from U. S. Navy's oil exploration in northern Alaska demonstrates traceable microfossil zones within Cretaceous strata (early Albian to Campanian). Characteristic fossils of eight formations are noted.

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BERGQUIST, HARLAN RICHARD, 1908—, see also Gryc, G., and others. Mesozoic sequence in Colville River region . . . 1956. No. 45325.

BERGQUIST, HARLAN RICHARD, 1908- , see also Robinson, F. M. Core tests and test wells, Oumalik . . . 1956. No. 47619.

43990. BERGSLAND, KNUT, 1914—. Hvordan den nye samiske rettskrivningen ble til. (Sameliv; Samisk selskaps årbok 1951–1952, p. 28–50.) Text in Norwegian. *Title tr.*: How the new Lappish orthography was created.

Contains an historical survey of the development of Lappish orthography in Norway and Sweden with examples from different periods. Contributions of Rasmus Rask, N. V. Stockfleth, J. A. Friis and Konrad Nielsen are noted, and details of their systems given. Lappish books approved for use in the schools must adopt the orthography established in 1947. It is the result of Norwegian-Swedish cooperation and is based on the Kautokeino dialect. Copy seen: DLC.

43991. BERGSLAND, KNUT, 1914—. Røros-lappisk grammatikk; et forsøk på strukturell språkbeskrivelse. Oslo, H. Aschehoug & Co.; Cambridge, Mass., Harvard University Press, 1946. xvi, 312 p. illus. (Instituttet for sammenlignende kulturforskning. [Publikationer] Serie B: skrifter 43.) 66 refs. Text in Norwegian. Title tr.: Røros-Lappish

grammar; an attempt at structural language description.

Analysis of the Lappish language is complicated by the existence of eight recognized dialects, generally grouped as northern and southern. Røros Lappish, spoken in the eastern upland of central Norway, is of the southern group. Letter and word sound, meaning, accent, and rhythm which vary in individual speech or dialect are distinguished from structural differences between dialects. Nominal, verbal, and other structural groups are discussed.

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43992. BERGSTEN, FOLKE. A contribution to the knowledge of the influence of the Gulf Stream on the winter temperature of northern Europe. [Stockholm, 1936.] p. 298–307, maps, tables. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, serien uppsatser, no. 10.) Reprinted from Geografiska annaler, 1936, heft 3–4.

The mean temperature of the surface water for April-Oct. in the area 59°-61° N. 10°-30° W. is correlated with the following mean winter temperatures for 18 European stations for the period 1900-1934. Isolines of correlation coefficients are mapped and the values for each station tabulated. The largest correlation, about 0.40, occurs in the ocean area between Iceland, Scotland, and northwestern Norway, diminishing rapidly over Scandinavia. The results indicate that practical forecasts cannot be made of the severity of the European winter based only on the preceding summer temperature of the Gulf Stream.

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4393. BERGSTEN, FOLKE. Undersökningar rörande sekulära ändringar i avrinningen i vissa svenska vattendrag med särskild hänsyn till frågan om ändringar i nederbördsklimatet. Stockholm, 1941. 9 p. diagrs., table. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, serien uppsatser, no. 36.) Text in Swedish. Summary in English. Title tr.: On possible annual variations of the flow of Swedish rivers and some consequences as to the climate of precipitation.

Discharge data for several Swedish stations for periods of record varying from shortly after 1800 to 1937 are analyzed. Results of the analysis show that no discernible change in the river flow has occurred in central and southern

Sweden during the period under study. Short-period data (40 years or less) for the northern part of the country makes a similar study invalid.

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43994. BERGSTEN, FOLKE. Vårflödet i norrländska vattendrag samt i Dalälven och Klarälven. Stockholm, 1940. 14 p. maps, tables. (Sweden Meteorologiska och hydrologiska institutet. Meddelanden, bd. 7, no. 7.) Text in Swedish. Summary in English. Title tr.: The spring flood in Norrland watercourses and in the Dal and Klara Rivers.

Data from 112 hydrological stations in northern Sweden are given on peak flows during the spring. Tabulated data include maximum and minimum stage levels, area of the drainage basin, percentage lake area in each basin, period on which peak flows are based, zero level of the gauge, mean and mean winter low-water stages. The mean beginning time of high flows and time of maximum flow are mapped. Flows in the far North of the area begin in early May while in the south at the beginning of April.

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4395. BERING, EDGAR A., Jr., and others. Studies on hypothermia in monkeys, 2; the effect of hypothermia on the general physiology and cerebral metabolism of monkeys in the hypothermic state. (Surgery, gynecology & obstetrics, Feb. 1956. v. 102, no. 2, p. 134–38, illus. table.) 5 refs. Other authors: J. A. Taren, J. D. McMurrey and W. F. Bernhard.

A study on animals cooled by immersion in a bath of 3° C. and pentobarbitol anesthesia. Pulse rate and mean blood pressure, ECG, cerebral blood flow and O<sub>2</sub>-consumption, blood sugar levels, etc., were followed parallel to, and in conjunction with the body temperature.

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BERING, EDGAR A., Jr., see also McMurrey, J. D., and others. Studies on hypothermia in monkeys, 1 . . . occlusion . . . circulation . . . brain. 1956. No. 46548.

BERKELEY, CYRIL, see Berkeley, E., and C. Berkeley. On . . . polychaetous annelids . . . 1956. No. 43996.

43996. BERKELEY, E., and C. BERKE-LEY. On a collection of polychaetous annelids from northern Banks Island, from the south Beaufort Sea, and from northwest Alaska, together with some new records from the east coast of Canada. (Canada. Fisheries Research Board. Journal, Mar. 1956. v. 13, no. 2, p. 233–46, table.)

Contains notes on 37 species collected mostly by Dr. Ferris Neave from the Northwind in 1954 off Banks Island and off Icy Cape, Alaska; 27 are new for the area. Six species collected off Nova Scotia and New Brunswick are included. Extent of North American and European distribution is given.

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43997. BERKH, VASILIĬ NIKOLAE-VICH, 1781–1834. Podrobnoe izviestie o puteshestvii Kapitana Parri v 1819 godu, dliâ otkrytilâ sièvero-zapadnogo puti. (Sièvernyl arkhiv, 1822, chast' 2, p. 277– 312, 350–65, 430–44; chast' 3, p. 36–66.) 7 refs. Text in Russian. *Title tr.:* Detailed information on the 1819 voyage of Captain Parry for the discovery of the Northwest Passage.

Relates content of Parry's journal and appendices on the pendulum observations frostbite, and scurvy (cf. No. 13145).

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43998. BERKHIN, S. I. Vlifanie stepeni dispersnosti na kharakter rentgenogrammy muskovita. (Akademifa nauk SSSR. Doklady, July 11, 1953. nov. ser., god 21, t. 91, no. 2, p. 389-91, table.) 4 refs. Text in Russian. *Title tr.*: Influence of degree of dispersion on the character of the X-ray diagram of muscovite.

X-ray investigation of muscovite from Kola Peninsula is described. Specimens were ground in the agate mortar and grinding ball mill. Fractions of particles from 2 to  $0.2\mu$  and less than  $0.2\mu$  were elutriated in water and subjected to Xray analysis for comparison of characteristics. Method of grinding affects the X-ray diagram characteristics. Muscovite ground in a ball mill has larger background on X-ray diagram and lines of interference of lesser intensity. Distance between planes of particles elutriated in water are enlarged by its penetration. Results of the analysis are assembled in table. Copy seen: DLC.

4399. BERKOVICH, E. M., and S. V. STOÑNOVSKII. Vlifânie belogo i monokhromaticheskogo sveta na potreblenie kisloroda i dykhanie u loshadeľ. (Fiziologicheskii zhurnal SSSR, 1956. t. 42, no. 3, p. 287–92, tables.) 11 refs. Text in Russian. *Title tr.:* The influence of white and monochromatic light on oxygen consumption and respiration of horses.

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Daylight was found to stimulate gaseous metabolism in horses, electric light to lower it. Red light also had a stimulating effect; green light showed a stimulating effect with a low initial level of energy processes. Combinations of different kinds of light with administration of caffeine or bromine were also tested.

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44000. BERLIOZ, J., and C. JOUANIN. Étude d'une collection d'oiseaux des Îles Pribilof. (Paris. Museum national d'histoire naturelle. Bulletin, Dec. 1951. Sér. 2, v. 23, no. 6, p. 610–15). Text in French. Title tr.: Description of a bird collection from the Pribilof Islands.

Contains notes on the physical geography of the islands, and a systematic annotated list of 19 species of birds collected by Dr. Arétas in the summer of 1951 during his study of fur seals of the Bering Sea.

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BERNARD, E.-MERCIER, see Corbel, J. L'hiver dans l'arctique . . . 1956. No. 44465.

44001. BERNE, ROBERT MATTHEW, 1918— . Coronary blood flow during hypothermia. (*In:* National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 165–69, illus.)

Account of experiments with dogs cooled to 20° C. It was found that coronary blood flow was fairly well maintained during hypothermia, while aortic pressure reached very low levels. The problem of ventricular fibrillation was also studied.

\*\*Copy seen: DLC.\*\*

44002. BERNE, ROBERT MATTHEW, 1918— . The effect of immersion hypothermia on coronary blood flow. (Circulation research, May 1954. v. 2, no. 3, p. 236–42, illus., tables.) 13 refs.

In deeply hypothermic dogs, resistance in the coronary vascular bed was found to be reduced and flow continued even at very low aortic pressure. Artificial acceleration of the heart at constant coronary perfusion pressures produced a decrease in coronary blood flow. Epinephrine produced brief improvement in blood pressure and coronary circulation but was followed by ventricular fibrillation.

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44003. BERNE, ROBERT MATTHEW, 1918— . Hypothermia and coronary blood flow. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 18.)

Summary of two series of experiments on pentobarbitolized, open-chest dogs and on fibrillating heart preparations. A drop in temperature of the blood entering the cannulated coronary artery by 10–15° C. produced an increase in coronary flow. Potassium balance of the heart and phasic blood flow were also studied.

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44004. BERNHARD, WILLIAM F., and others. The effect of hypothermia on the peripheral serum levels of free 17-hydroxycorticoids in the dog and man. (Annals of surgery, Feb. 1956. v. 143, no. 2, p. 210–15, illus.) 12 refs. Also pub. in: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 175–82, illus. Other authors: J. D. McMurrey, W. F. Ganong, and R. Lennihan.

Account of experiments with ten dogs and of follow-ups on two patients operated under hypothermia. Both groups showed constant peripheral cortical levels and extensive surgical trauma during hypothermia. The latter depressed production and conjugation of steroid hormones. The post-operative rise in peripheral corticoids was less than expected with comparable operations performed at normal temperature.

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BERNHARD, WILLIAM F., see also Bering, E. A., and others. Studies . . . hypothermia in monkeys, 2 . . . general physiology . . . 1956. No. 43995.

BERNHARD, WILLIAM F., see also McMurrey, J. D., and others. Studies on hypothermia in monkeys, 1 . . . occlusion . . . circulation . . . brain. 1956. No. 46548.

44005. BERNHARDT, JOSHUA, 1893— The Alaskan Engineering Commission, its history, activities and organization. New York, London, D. Appleton and Co., 1922. xii, 124 p. map, tables. (Institute for Government Research. Service monographs of the United States Government no. 4.) Approx. 200 refs.

A comprehensive survey is given of the Commission authorized in 1914 and responsible for the survey, location, construction, and operation of the government railroad in Alaska. Built from Seward to Fairbanks, 467 miles, with branch to the Matanuska coal fields 40 miles, it was opened in 1923. Construction activities and operation of the railroad and related facilities are described. An outline of the organization including the classes of employees and annual salary is included. Copy seen: DLC.

44006. BERRY, EDWARD WILBUR, 1875- A new Drepanolepis from Alaska, (Washington Academy of Sciences. Journal, Apr. 19, 1932, v. 22,

no. 8, p. 217-20, illus.)

D. reniformis n. sp. collected by F. H. Moffit from Quadrangle 601, Chitina valley, Alaska, is described. "The question of age can not be definitely settled," probably late Jurassic rather than early Cretaceous. Copy seen: DLC.

44007. BERRY, FREDERIC AROYCE, 1906—, and others. Arctic weather maps, supplementary 500 MB charts. Norfolk, Va., U. S. Naval Air Station, 1949–1950. 70 maps. (U. S. Navy. Bureau of Aeronautics. Project TED-UNL-MA-501. Project AROWA.) Other authors: N. J. Macdonald and H. P. Wilson.

Analyzed 500 mb. charts for 0300Z are given for selected periods from July 3, 1949 to June 14, 1950. The analysis, including pressure and temperature is presented on polar stereographic projections covering primarily the area north of 40° lat.

\*\*Copy seen: CaMAI.\*\*

44008. BERRYHILL, F. M., and others. Arctic survival food packets X-50 and RPX2B. Ottawa, Toronto, Aug. 1954. 3, 5 p. illus., tables (Canada. Defence Research Medical Laboratories. Report no. 173-7) Other authors: T. J. Keefe and J. G. Armstrong.

Report of study aimed at determining whether these two experimental food packets satisfy the recommendations of the Defence Research Board Nutrition Panel and whether the food items are acceptable after storage. Components, caloric source, desirable changes, etc., are discussed.

\*\*Copy seen: DNLM.\*\*

44009. BERRYHILL, F. M., and others. Stability of ration pack items; five-man arctic ration pack RPX-1. Toronto, Jan. 1955. 5, 16 p. illus., tables. (Canada. Defence Research Medical Laboratories. Report no. 173-10) 2 refs.

Other authors: M. A. Kennedy and M. C. Fleming.

Food items from this ration pack were tested in the field for acceptability, following nine months storage at 100° F, and two years of service storage. Fourteen out of 43 items were still acceptable at the end of the storage service period. Data from "accelerated" storage have not been conclusive for all items.

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44010. BERSHIDSKII, A. KH. Normirovanie dopolnitel'nykh zatrat pri proizvodstve stroitel'nykh rabot v zimnee vremâ. (Stroitel'naâ promyshlennost', Sept. 1956. god 34, no. 9, p. 38–41, table, map.) Text in Russian. *Title tr.:* Standardization of additional costs on construction work carried out during the winter.

The economics of expanding construction from summer to a year-round activity are discussed. The economics are related to separate construction fields: industrial, house building, road and railroad, agricultural and others; also to six average temperature zones (map, p. 39). The arctic zone includes ore and coal mining, ore processing plant, sea and river port, etc., construction. The average annual costs are variably increased with the zone from 0.4 to 9.0 percent (for the arctic area) due to use of additional heavier machinery for frozen ground, heated shelter and heating plant for unfinished buildings, etc. New economic standards on costs were approved from Jan. 1956 by the Administration of State Construction U. S. S. R. Copy seen: DLC.

BERTHELSEN, ASGER, see Norsk geologisk tidsskrift. Second Nordic Geologic . . . meeting . . . 1956. No. 47080.

44011. BERTON, PIERRE, 1920 - . The mysterious North. New York, Knopf, 1956. 345, xv p. 24 illus., 6 text maps.

Narrative of the writer's several crips into the Canadian North between World War II and 1955 and his early years in the Klondike, a second generation sourdough. He stresses that several "Norths" exist between Alaska and Ungava, each distinct in climate topography, economic and social structure. These he describes: the land forms, settlements, population, cultural and economic conditions, etc., in the course of recounting his travels. His flights to the "Headless (or Deadman) Valley" of the

South Nahanni River (southwest Mackenzie District); to Whitehorse and Dawson City (Yukon Territory); and a trip on the Alaska Highway from Whitehorse to the Alaska border and return to Dawson Creek, B. C. are related. He flew via Churchill and Coral Harbour to Pond Inlet on northern Baffin Island in June 1954, and across Labrador-northern Quebec to Frobisher Bay in Apr. 1955 on a supply trip for the DEW radar line. He made a trip on the Quebec North Shore & Laborador Railway from Seven Islands to the Knob Lake iron-mining region; a flight to Aklavik on the Mackenzie Delta, across the delta, south along the Mackenzie, east to Great Bear Lake, north to Coppermine on the arctic coast, south to Yellowknife and Pine Point. He traveled by tug on Great Slave Lake and Mackenzie River; made a flight northeast from Yellowknife across the Barren Grounds of Keewatin, etc. Copy seen: DLC.

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44012. BESCHINSKIĬ, A., and A. VOZ-NESENSKIĬ. Osnovnye problemy razvitiñ gidroenergetiki v shestoĭ pfatiletke. (Planovoe khozfaĭstvo, 1956, no. 5, p. 14– 28, tables.) Text in Russian. *Title tr.:* Basic problems of hydroelectric power development in the 6th five-year plan.

The potential energy of 1477 rivers in the U. S. S. R. amounts to 340 million kw. representing an annual output of about 3,000 billion kw.-hrs., greatly exceeding the power potential of other countries (United States 84.3 million kw., Canada 67.5, and so on). The northern areas of U. S. S. R. have a hydroelectric power potential of 6.6 million kw. and 57.9 billion kw.-hrs. Power development planned for the sixth five-year period is discussed, and importance of the large hydroelectric installations on the Ob, Yenisey, and Angara are noted, p. 21–23.

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44013. BESKOW, GUNNAR, 1901– . Geologi på skidor. (På skidor, Föreningen för skidlöpningens och friluftslivets främjande i Sverige. Årsbok 1953. p. 5–20, illus.) Text in Swedish.  $Title\ tr.:$  Geology on skis.

Includes a popular geological description of the mountains in north Sweden with special emphasis on the influence of the glaciers.

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**44014. BESKOW, HANS,** and others. Norrbottens bygd och folk; en skildring i ord och bild av Norrbottens bebyggelse.

Under medverkan av bl. a.: landsantikvarie Hans Beskow, Bertil Nilsson, Gunnar Wirsell. Stockholm, Hembygdslitteratur, 1953. 732 p. illus. Text in Swedish. *Title tr.:* Norrbotten's district and people, a description in words and pictures of Norrbotten's settlement. A cooperative effort of the antiquarians Hans Beskow, Bertil Nilsson, Gunnar Wirsell, and others.

History of this northernmost district of Sweden is outlined (p. 11-54): tribal occupance, settlement, trade, political control, economic changes, church activities, and social welfare, with many references to northern Norway and the land to the east. Customs and culture are dealt with (p. 43-54). Twenty-five communities are treated in turn: for each is given an historical resumé, and a list (not necessarily complete) of the dwellings; each house is described, with photograph and names of the persons living in it. Some 5500 homes are so covered, among them those of Arjeplog, Arvidsjaur, Gällivare, Jokkmokk, Karesuando, Copy seen: DLC. Kiruna, etc.

BEVANS, J. T., see Dunkle, R. V., and J. T. Bevans. An . . . analysis . . . solar reflectance and transmittance . . . snow cover. 1956. No. 44686.

44015. BEYNON, A. Arctic flight by aircraft of R. A. F. station, Shawbury. (Meteorological magazine, Aug. 1951. v. 80, no. 950, p. 233-35, 4 illus. (facing p. 228-29) text map.)

Special navigation exercises were carried out Mar. 13 and 15, 1951, by four Lancaster aircraft based at Keflavik Iceland. Routes flown were the same on both days: Keflavik – Jan Mayen – northeast Greenland to 79°05′ N. 18° W. – southward down the East Greenland coast to Keflavik. Meteorological conditions on both flights are briefly summarized.

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BEZHENTSEV, M. K., see Usenko, V. M., and M. K. Bezhentsev. Stroitel'noe proizvodstvo. 1953. No. 48655.

44016. BEZRUKOV, P. L., and G. B. UDINTSEV. Kurile-Kamchatka trough and neighboring seas. Three papers... translated by E. R. Hope. Ottawa, July 1956. 12 p. 6 text maps. Mimeographed. (Canada. Defence Research Board. Defence Scientific Information Service. T217R) 15 refs.

English translations of Arctic Bibliography No. 44018, 37868, and 42920.

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44017. BEZRUKOV, P. L. Nekotorye voprosy osadkoobrazovaniâ v Kurilo-Kamchatskoï vpadine. (Akademiâ nauk SSSR. Sovet po seismologii. Bûlleten', 1956. no. 2, Sbornik statel po îsunami, p. 43–51.) Text in Russian. *Title tr.:* Some problems on the sedimentation in the Kuril-Kamchatka depression.

Studies of oceanic deeps from the viewpoint of geology, morphology and oceanography are reviewed, especially those in the Sea of Okhotsk, and the Kuril-Trench area. Investigation of deep water sedimentation is described, not only as it results from seismic disturbances during many geological periods, but also to elucidate problems of heat exchange between lithosphere and hydrosphere, of circulation of ocean water at great depths and questions of the origin and history of spreading of marine fauna. The Kuril-Kamchatka are is located in the zone of recent active tectonic movements and mountain formation, its exploration was carried on from 1949 to 1954 by the Academy of Sciences' Institute of Oceanology's research vessel Vitiaz'. In addition to bathymetric work, bottom sediments were sampled at various depths in the Sea of Okhotsk and the North Pacific, and data obtained on the composition and the metallic and mineral components of the water, also on the organic and non-organic sediments. Sponges, molluscs, bottom forminifera, pearlweeds, corals, etc., were found at the lesser depths as well as other types of sediments mentioned in the text.

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44018. BEZRUKOV, P. L., and G. B. UDINTSEV. Novye dannye o geologicheskom stroenii dal'nevostochnykh morel. (Akademiña nauk SSSR. Doklady, July 11, 1953, nov. ser., god 21, t. 91, no. 2, p. 359-62, map.) 4 refs. Text in Russian. Title tr.: New data on the geological structure of the Far Eastern Seas. English translation by E. R. Hope, was pub. by the Canadian Defence Research Board as its Defence Scientific Information Service, T 217 R, July 1956, p. 1-4 (copy at CaMAI).

Deep-water geological studies by the Institute of Oceanology, Academy of Sciences, U. S. S. R., are described. New technical equipment and methods used include self-recording sounding devices

and deep-water sampling tubes 34 m. long for collection of bottom sediments. Depths of the Okhotsk, Bering and Japanese Seas, also part of the Pacific Ocean are determined (map p. 360). Maximum depth of the Sea of Okhotsk was found to be 3,370 m., Bering Sea 4,500 m., and the Sea of Japan 3,000 m.; the Pacific was found to be 8,000 m. deep east of the Kurils, 6,670 m, further east, and 8,000 m. south of the Aleutian Islands. The bottom sediments of these seas indicate structures varying in different localities. Materials for further study of island formation processes in the Pacific are represented in new data on the geological structure of these seas.

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44019. BEZZUBOV, NIKOLAĬ DMI-TRIEVICH, and A. A. SOKOLOV. Dobycha kuskovogo torfa mashinol MPDK. Moskva. Gos. energeticheskoe izd-vo, 1955. 95 p., tables, illus., diagrs., 7 refs. Text in Russian. Title tr.: Production of peat bricks by machine MPDK.

Theoretical considerations are outlined for the conditions required in excavation of the surface layer of peat. Automatic formation of the peat bricks and their arrangement for drying are described in detail with illus. Technological processes are outlined and tabulated for large scale production on time schedules, with provision for maintenance of machines. The book is prepared for educational purposes of young technical personnel.

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44020. BIBLIOGRAPHIE GÉOGRA-PHIQUE INTERNATIONALE. t. 60, 1951-1952-1953. Paris, A. Colin, 1956. 1004 p. Text in French.

Coverage and arrangement are similar to previous issues (No. 38839). Parts 1 and 2 contain scattered arctic listings under pertinent subjects and countries. Part 2 includes a section (approx. 650 refs.) on polar regions (p. 870–952), assembled by J. N. Malaurie. Most references are accompanied by brief annotations (5 to 50 words).

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BICKEL, ROBERT SAMUEL, 1925—, see Patton, W. W., and R. S. Bickel. Geologic map . . . lower Yukon River . . . 1956. No. 47276.

BICKEL, ROBERT SAMUEL, 1925—, see also Patton, W. W., and R. S. Bickel. Geologic map . . . Shaktolik River . . . 1956. No. 47277.

44021. BICKLEY, WILLIAM ELBERT, 1914—, and E. G. MACLEOD. A synopsis of the nearctic Chrysopidae with a key to the genera; Neuroptera. (Entomological Society of Washington. Proceedings, Aug. 1956. v. 58, no. 4, p. 177–202, illus.) 40 refs. Issued also as: Scientific art. No. A524, Contr. No. 2655, of the Maryland Agric. Exper. Sta., Dept. of Entomology.

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Contains an interim review of the family north of Mexico, with historical notes, explanation of taxonomic characters, keys and a systematic annotated list of about 80 species. Chrysopa plorabunda and Charrisii, collected by R. I. Sailer at Fort Yukon and Kotzebue Sound in July 1951, are included.

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44022. BIETTE, ÉMILE. Prélude à de nouveaux transports arctiques: le passage du Nord-ouest. (Transmondia, May 1955, no. 8, p. 13–17, col. illus., map.) Text in French. *Title tr.:* Prelude to new arctic transportation: the Northwest Passage.

The Northwest is not potentially a trade route like the Northeast Pasage, but it has importance in the event of a war involving North America. Amundsen's east-west traverse of it in the Gjøa 1903–1906 is reviewed. Construction of new American and Canadian ice-breaking vessels, capable of navigating it, are noted: the Northwind, Burton Island, etc.; the Labrador, C. D. Howe, d'Iberville, etc.

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44023. BILIBIN, TÜRIİ ALEKSAN-DROVICH. Osnovy geologii rossypei. Moskva, Izd-vo Akademii nauk SSSR, 1955. 471 p., tables, graphs, maps, illus., refs. Text in Russian. *Title tr.:* Fundamentals of the geology of placers.

Contains systematic description of geology of placers. Consideration is given to hydrological, geomorphic, glaciological and permafrost phenomena as related to the origin of the placers (of gold, platinum, cassiterite, wolframite, magnetite, monazite, diamond, ruby, The hydrogeology of sapphire, etc.). valley deposits is discussed (p. 360-81) with attention to thawed and frozen ground, naleds, underground river and lake ice, lenses, etc. Stratigraphy of deposits is outlined with Quaternary chronology of northern Siberian and neighboring regions, including the Aldan, Kolyma, Taymyr, Indigirka, Anadyr' (p. 401-415). The morphology of the placers, distribution and character of their metals is discussed in detail (p. 416-62). Copy seen: DLC.

44024. BILLING, GILLIS. Fjällsport på Spetsbergen. (På skidor. Föreningen för skidlöpningens och friluftslivets främjande i Sverige. Årsbok 1956. p. 61–79, illus.) Text in Swedish. *Title tr.*: Mountaineering in Spitsbergen.

Account of a seven-man party (the author, one Norwegian, five Austrians) sponsored by Section Bergland of Osterreichische Alpenverein 1954. Base camp was established at Fanciullipynten (Cape Fanciulli, 79°10' N. 12° E.) on the east shore of Krossfjorden; tours made by the author and the Norwegian, Per Vigerust, are described in detail. Climbs included Kongen (Le Roi, 1423 m. 79°10' N. 12°30' E.) and Storingen (Le Colosse, 1144 m. 79°20' N., 12° E.). The hot springs of Jotun (79°20' N., 13° E.) on the west shore of Bockfjorden were visited, and the Wergeland mountains (79°10' N. 13° E.) investigated.

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BINGHAM, HIRAM, 1875—
tional Geographic Society. National
Geographic on Indians . . . . 1955. No.
46941.

44025. BIÖRCK, GUNNAR, and B. JOHANSSON. Comparative studies on temperature effects upon the electrocardiogram in some vertebrates. (Acta physiologica scandinavica, 1955. v. 34, fasc. 2–3, p. 257–72, illus.) 24 refs.

Electrocardiograms of dogs, hedgehogs, frogs and fishes with body temperatures ranging from near freezing to about 40° C. were studied. "The variations in heart rate, P-R interval, QRS complex, Q-T interval, and Q-T in o/o of R-R are presented in graphs. Some peculiar electrocardiographic alterations that appear during cooling are discussed in some detail." Comparisons with electrocardiograms in human thermia are made. Copy seen: DNLM.

BIÖRCK, GUNNAR, see also Johansson, B., and others. Electrocardiographic observations . . . hypothermia. 1956. No. 45805.

44026. BIRD, JOHN BRIAN, 1923—, and F. K. HARE. Upland surfaces in Eastern Canada. (In: International Geographical Congress. 18th, Rio de Janeiro, 1956. Eighth report of the Commission for the study and correlation of erosion surfaces around the Atlantic: IV,

researches in North America, p. 41-44.) 14 refs.

Includes (p. 42-43) brief description of the Laurentian peneplain in northern Quebec-Labrador, its complexity in Labrador, and remnants of a higher upland surface found in the Torngats and Mealy Mts. Upland surfaces of Baffin, Bylot, Devon and Ellesmere are also noted. Widespread uplift of land relative to the sea has occurred in recent geological time. Movement should not be confused with changes in level due to Pleistocene glaciation.

Copy seen: CaMAI.

BIRD, JOHN BRIAN, 1923—, see also Howard, A. D., and D. D. Smith. Erosion surfaces. 1956. No. 45623.

44027. BIRŪKOV, N. P. Ispol'zovanie rezul'tatov raschislenia tempa rosta atlantichesko-skandinavskikh sel'del dia razlichenia stad i izuchenia puteľ migrafsil. (Voprosy ikhtiologii, 1956. vyp. 6, p. 47–54, illus., tables.) 3 refs. Text in Russian. Title tr.: Utilization of growth-rate data of the Atlantic-Scandinavian herring for group distinction and for study of migratory routes.

Samples for studies were taken from the Norwegian, Greenland, Barents and more southern seas. Mostly represented were the year groups 1943, 1944 and 1947. Sampling took place during 1950–52. The differences in growth-rate and pattern are utilized for distinguishing geographic shoals of herring.

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BIRKELAND, BERNT JOHANNES, 1879–1955, see Hesselberg, T., and B. J. Birkeland. No. 45537–45538.

44028. BIRKELUND, TOVE. Upper Cretaceous belemnites from West Greenland. København, C. A. Reitzel, 1956. 31 p. plate, text map, 3 tables. (Meddelelser om Grønland. Bd. 137, nr. 9.) 34 refs. Also pub. as: Greenland. Geologiske undersøgelse. Bulletin, no. 13.

Contains description of belemnites found among marine fossils collected from Nugssuaq (70°25′ N. 52°30′ W.) and Svartenhuk (71°45′ N. 54° W.) Peninsulas during geological expeditions to West Greenland led by A. Rosenkrantz, 1946–1954. Six species (two new), representing the genera Actinocamax and Belemnoteuthis, are described; in each case, affinity with other species is dis-

cussed. Belemnites are rare in these deposits. Copy seen: DGS.

BIRKELUND, TOVE, see also Troelsen, J. C., and others. Greenland. 1956. No. 48471.

BIRKET-SMITH, KAJ, 1893-, see Bogen om Knud . . . 1945. No. 44073.

BIRKET-SMITH, KAJ, 1893-, see also Sanders, I. T. Societies around the world. 1956. No. 47782.

44029. BIRULÍA, A. K., and V. D. ZINCHENKO. O primenimosti modulía deformaísii dlía kharakteristiki mekhanicheskikh svoľstv gruntov i dorozhnykh odezhd. (In: Moskva. Avtomobil'nodorozhnyl institut. Opredelenie modulía deformaísii gruntov, 1955. p. 29–36, graphs.) Text in Russian. Title tr.: Applicability of modulus of deformation to characteristics of mechanical properties of soils and road surfaces.

The design of non-rigid road surfaces using the method of the All-Union Highway Scientific Research Institute is described and compared with others. This method consists of the experimental determination of the yield of the road surface under action of different loads. The relationship between yield and load is expressed by a parabolic curve and is mathematically formulated on the basis of elasticity theory applied within the limits of the compression phase and partial shearing. Static and dynamic loading of the road surface are also discussed.

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**44030. BIRZIS, LUCY.** Efferent discharge in brain stem during shivering. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 20.)

"A discharge of spikes was seen whenever the cat shivered and disappeared when shivering ceased." Frequency of firing, relations to respiratory and cardiac rhythms, effects of rewarming, etc., are also discussed. Copy seen: DLC.

BIRZIS, LUCY, see also Hemingway, A., and L. Birzis. Effect of hypoxia on shivering. 1956. No. 45513.

BIRZIS, LUCY, see also Hemingway, A., and L. Birzis. Nervous control of shivering, 4... effect of hypoxia... 1956. No. 45514.

44031. BISCHOF, WALTER. Vindarna vid Tarfala. (Till Fjälls, Svenska fjällklubbens årsbok 1955. Årg. 27, Spring 1956. p. 22-27, illus.) Text in Swedish. *Title tr.*: The winds at Tarfala.

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Gives weather observations from a three-month stay, summer 1954, in the Tarfala valley in the Kebnekaise (67°53′ N. 18°33′ E.) region of north Sweden. Its unstable character due to the mountains acting as barriers to the moving air masses, is stressed. Copy seen: SPRI.

BISSEĬSHVILI, M. I., see Kopaleĭshvili, G. T., and M. I. Bisseĭshvili. Zimnee soderzhanie . . . dorog. 1956. No. 46075.

44032. BJANES, M. Forsøk med vårkveitesorter 1948–52. (Norway. Rådet for jordbrukforsøk. Melding, 1954. nr. 6, p. 219–46, 18 tables.) Also pub. in Forskning og forsøk i landbruket, 1954. bd. 5, hefte 3, p. 219–46, 18 tables. Text in Norwegian. Summary in English. Title tr.: Trials with spring wheat varieties 1948–52.

Trials at five experimental stations in Norway are reported, including those from Vågones, near Bodø, in Nordland. Weather and growth are compared, length of growing period recorded, and various crop results for several spring wheat strains are tabulated. Experiment, economy, and possible differences in location in the North are considered.

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BJØRGAN, ERLING, see Saetherskar, J. Det norske naeringsliv: Finnmark fylkesleksikon. 1952. No. 47749.

44033. BJÖRKHEM, KARL EINAR, and A. ELMLUND. Skogsbilvägar, behov och önskemål samt ett förslag om deras finansiering. (Skogen, Jan. 1, 1956. årg. 43, no. 1, p. 6–8, illus.) Text in Swedish. Title tr.: Forest motor roads, needs and objectives; and suggestions for financing them.

Roads are needed in Swedish forests, especially in Norrland, the northernmost province. Advantages of seasonal construction, manpower, technical supervision, costs and financing, are discussed. Construction to meet both immediate and future requirements is stressed.

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44034. BJÖRKMAN, ERIK, 1912—. Betydelsen av gödsling i skogsträdsplantskolor för plantornas första utveckling i skogsmarken. (Norske skogplanteskoler. Årsskrift, 1955. p. 38–56, 2 illus., 6 diagrs.) 12 refs. Text in Swedish. *Title tr.:* Significance of fertilization in forest

nurseries for the plant's first development in the forest soil.

Forestry problems investigated in Norrland are stated: the soil most suitable for young trees; how they should be fertilized; their best age for transplanting; whether nursery production is desirable; and the ideal density of seeding. Soil and fertilizer problems of pine and spruce are considered, especially the effects of nutrient elements and mycorhiza.

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44035. BJÖRKMAN, GUNNAR. Floran i trakten av Äpartjåkkos magnesitfält. Stockholm, 1937. 36 p., 4 illus, fold. plate. (Svenska vetenskapsakademien, Stockholm. Skrifter i naturskyddsärenden, 1937. nr. 33.) 23 refs. Text in Swedish. *Title tr.:* Flora in the locality of the Äpartjåkko magnesite outerop.

Plant societies are treated in their relation to the magnesite and surrounding rocks in a small section of the Sarek region of northern Sweden, and to soil composition and humidity. Occurrence of Carex maritima is considered, especially as it may be eradicated by the mining activities. Seed plant (nearly 200), moss and lichen species are listed with substrate. Vegetation profile is attached.

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44036. BJÖRKMAN, GUNNAR. Kärlväxtfloran inom Stora Sjöfallets Nationalpark jämte angränsande delar av norra Lule lappmark. Stockholm, Almqvist & Wiksell, 1939. iv, 224 p., 3 maps. (Svenska vetenskapsakademien, Stockholm. Avhandlingar i naturskyddsärenden, no. 2.) 107 refs. Text in Swedish. Title tr.: Flora of vascular plants of the Stora Sjöfallet National Park and adjoining regions of northern Lule Lappmark.

Phytogeographic study, carried out in 1921-23, 1924, 1928 and 1936: 13 subregions (cf. maps) are described and 418 vascular plants listed with data on horizontal and vertical distribution in subregions, and on their frequency. Another list of 114 anthropochorous plants is added; among them Taraxacum canorubens n. sp. (Lule and Torne Lappmark in Sweden, and Lofoten islands of Norway) with Latin diagnosis. Plant formations are discussed. Snow mountain flora and lowland plant distribution are shown, also post-glacial expansion of plants of the region. Geobotanical maps are in scale 1:40000 and 1:44000.

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44037. BJØRLYKKE, KNUT OLAI KNUTSEN, 1860–1946. Forsøk paa inddeling av det norske jordsmon. (Nordisk jordbrugsforskning, 1923. Aarg. 5, hefte 5–8, p. 360–70, text map.) Text in Norwegian. *Title tr.:* Research in the differentiation of Norwegian soil.

Includes discussion of soil and vegetation in northern Norway where rainfall variations separate southern Finnmark from the inner and northern coastal sections which have moderate rainfall, and some outer sections of Nordland with heavy rainfall. Soils in all three regions however, are still dominated by their origin.

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44038. BLACK, G. W. The mace of the North-West Territories. (Royal Canadian Mounted Police quarterly, Apr. 1956. v. 21, no. 4, p. 293–97, illus.)

Historical use and symbolism of the mace is reviewed and a detailed description given of that presented by the Governor General of Canada to the Northwest Territories Council at its tenth session on Jan. 17, 1956. This mace was made from arctic ivory, gold, copper, wood, and quillwork, by Cape Dorset Eskimos (with an Indian contribution) under the direction of James A. Houston of the Dept. of Northern Affairs and National Resources.

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44039. BLACK, J. W. The distribution of solar radiation over the earth's surface. (Archiv für Meteorologie, Geophysik und Bioklimatologie, 1956. Bd. 7, Heft 2, Ser. B., p. 165–89, diagrs., table, maps.) 42 refs. Summary in German and French.

Solar radiation and mean cloud amount were related by a quadratic regression, and data of total solar radiation measured on a horizontal surface on a monthly basis and of more than three years' duration were used. The data were obtained from 88 stations including Aklavik, Canada, and Fairbanks, Alaska. Values of total solar radiation were calculated by the use of the equation found for each 5° intersection of latitude and longitude overland, and for each 10° intersection over sea. Isopleths for each successive 50 gcal/sq. cm. day are shown on 12 monthly maps. Copy seen: DLC.

44040. BLACK, ROBERT FOSTER.

1918— Permafrost and water supply
of Point Spencer spit, Seward Peninsula,
Alaska. (Geological Society of America.

Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1672.)

Abstract of paper submitted for Society meeting in Minneapolis, Oct. 31-Nov. 2, 1956. The enlarged northern part of the spit (65°17′ N. 166°50′ W.) is attached to the mainland by a 12-mi. bar. Top of permafrost occurs 3-8 ft. or more from the surface. It rises under the coastal ridges producing a saucerlike layer that traps potable water. Excavation of borrow pits near the sea breached the rim of the layer. Sea water has contaminated potable water on margins of the spit, possibly also in the center.

Copy seen: DGS.

44041. BLACK, ROBERT FOSTER, 1918 - Permafrost as a natural phenomenon. [Washington, D. C.] 1956. iv, 25 p. diagrs., map. (In: U. S. Office of Naval Operations. The dynamic North, v. 2, no. 1.) 107 refs.

Contains a survey of recent literature on various aspects of permafrost including its geological, engineering, and biological significance. Areal distribution of permafrost in the Northern Hemisphere is mapped, and representative cross sections of permafrost areas in Alaska and Asia are given.

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44042. BLACK, W. A. Extracts relating to the navigability of Canadian inland waterways. Ottawa, Queen's Printer, 1956. 55 p. (Canada. Dept. of Mines and Technical Surveys. Miscellaneous papers series. Geographical paper no. 7.)

Excerpts (15–100 words in length) from published works of travelers, early explorers and fur traders, etc., also government reports, and information from local authorities. They are preserted in a listing of rivers and lakes, and these are grouped according to five major drainage regions: Pacific Coast, Interior Plains, Hudson-Laurentian, Great Lakes-St. Lawrence, and Atlantic Coast. Arctic-subarctic drainage basins are included in the second, third and last of these regions.

Copy seen: DGS.

44043. BLACKADAR, ROBERT G. Geological reconnaissance of Admiralty Inlet, Baffin Island, Arctic Archipelago, Northwest Territories: report, map, and stratigraphic sections. Ottawa, Queen's Printer, 1956. 25 p. fold. map, fold. sections, table. (Canada. Geological Survey. Paper 55–6.) 12 refs.

Contains results of field work in May-

Aug. 1954 by the author and R. R. H. Lemon in the region 71°30'-73°30' N. 83°-87° W., northern Baffin. Some 1000 mi. were covered by dog sled, and a detailed study was made of the Arctic Bay settlement vicinity. History of discovery, accessibility, population, climate, vegetation and game, and topography are briefly described. Bedrock is Archean, Proterozoic and/or Early Cambrian, and Late Ordovician; it includes sedimentary rocks, volcanic flows, highly contorted gneisses, basic dike rocks, and granitic and pegmatitic dike rocks. Except for widespread block faulting (the dominant structural feature) and gentle warping, no orogenic deformation has occurred since the Archean. Quaternary glacial and marine deposits are briefly described. Traces of mineralized rock are widespread in certain areas.

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**44044.** BLACKADAR, ROBERT G. "Operation Franklin," 1955. (Arctic circular, 1956. v. 9, no. 2, p. 12–17, text map.)

Describes Canadian Geological Survey's helicopter and ground reconnaissance of 100,000 sq. mi. of the Queen Elizabeth Islands and parts of northwest Baffin, Somerset, and Prince of Wales Islands. Two long-range Sikorsky S-55 helicopters with cruising speed of 72 mph. were used. Some statistics are given on loads and distances. Three base camps and five fuel caches were set up and preliminary ground investigations carried out by geologists with dog teams during May-June. The main survey phase, June-Sept., used nine field parties (11 geologists, 10 assistants). Main camps were moved by helicopter after key sites within 150 mi. radius had been examined, thus progressing systematically through the islands.

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**44045. BLACKBURN, JACOB F.,** and **W. L. GATES.** Note on hemispheric numerical integration of the barotropic model. (Journal of meteorology, Feb. 1956. v. 13, no. 1, p. 59–63, text maps.) 8 refs.

Contains description of the computational procedures employed for the numerical integration of the barotropic model for two-dimensional non-divergent flow on a finite-difference grid covering all longitudes of the Northern Hemisphere, south to approximately 10° N. The results of a pilot forecast are pre-

sented, and the implications of this work for both research and operational applications are discussed.

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BLAGODAROV, VASILIĬ EMEL'ĨANO-VICH., see Kanaki, V. G., and V. E. Blagodarov. Aerological observations. 1956. No. 45866.

44046. BLAIR, EMIL, and others. Clinical hypothermia; a study of the icewater surface immersion and short-wave diathermy rewarming technics. (American surgeon. Sept. 1956. v. 22, no. 9, p. 869–79, illus., tables.) 27 refs. Other authors: H. Swan and R. Virtue.

A study of 15 patients made hypothermic to 31° to 26° C. for cardiac surgery with total circulatory occlusion. Rate of cooling as determined by body size and shape, temperature course and change, the "after-fall", and course and nature of rewarming were recorded; also the onset of hypothermic anesthesia and the physiological effect of different cooling technics.

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44047. BLAIR, EMIL, and others. Post-hypothermic circulatory failure, 1; physiologic observations on the circulation. (Circulation, June 1956. v. 13, no. 6, p. 909–915, illus., table.) 22 refs. Other authors: A. V. Montgomery and H. Swan.

Dogs cooled to 30° C. showed, upon rapid rewarming (in warm water), acute circulatory collapse. This was characterized by low cardiac output, diminished ventricular activity, hypotension, hyperpnea and increased arteriovenous 02 difference.

\*\*Copy seen: DLC.\*\*

44048. BLAIR, JOSEPH R. Experimental cold injury in the rabbit. (In: Conference on Cold Injury. 4th, Nov. 7-9, 1955, Princeton, N. J. Transactions, pub. 1956, p. 73-84, illus.) 6 refs.

Account and discussion of experimental method for animal studies, simulating as closely as possible conditions encountered in the field. One hind foot is exposed while the other, protected, serves as control. The gross appearance of the injured limb is described.

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44049. BLAIR, JOSEPH R. Follow-up study of cold injury cases from the Korean War. (In: Conference on Cold Injury. 4th, Nov. 7–9, 1955, Princeton, N. J. Transactions, pub. 1956, p. 9–35, illus., tables.) 5 refs.

Report on a four-year follow-up study

of 100 representative cases, with data on age, race and rank of patients; site and degree of injury; conditions during cold injury; current condition of patients and sequels; employment and disability status; psychic condition, etc.

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BLAIR, JOSEPH R., see also Wolbach, R. A., and others. Skin temperature . . . experimental frostbite. 1956. No. 48997.

44050. BLAKE, SIDNEY FAY, 1892-

Leontodon autumnalis in Alaska and Washington, (Leaflets of western botany, Nov. 30, 1955. v. 7, no. 12, p. 285–86.)

Three specimens of this species occur in a small gathering of plants made by E. A. Hollowell and H. J. Hodgson on July 3, 1953 around Fairbanks. The species though known from the state of Washington, had not been reported previously from Alaska.

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44051. BLAKE, WESTON, 1930 - . The depth of crevasses. (Journal of glaciology, Mar. 1956. v. 2, no. 19, p. 644-45.) ref.

Notes on observations made on the inland ice in the Thule region of northwest Greenland (76°34′ N. 68°48′ W.), summer 1954. Crevasses investigated ranged in width from one ft. to 20–25 ft. (6–7.6 m.). Greatest depth recorded was 85 ft. (26 m.), least depth 30 ft. (9 m.). Larger crevasses (not investigated) were reported as being up to 100 ft. (30.5 m.) wide and possibly over 85 ft. deep. Ice in the crevassed areas near the margin of the inland ice was 1000–1500 ft. (305–457 m.) deep. Copy seen: DGS.

44052. BLANCK, EDWIN, 1877—, and others. Beiträge zur chemischen Verwitterung auf Hindö, Vesteraalen, Nordnorwegen. (Chemie der Erde, 1928. Bd. 4, Heft 1, p. 76–87.) 13 tables. Text in German. Other authors: F. Giesecke and H. Keese. Title tr.: Contributions to the chemical weathering on Hinnøy, Vesterålen, north Norway.

On the island of Hinney (approx. 69° N.) there is basin-like development of weathering in a gneissic, crystalline schist. Chemical analyses were made of the fresh and weathered rock to determine the chemical change, and compositions are compared. In a second locality, weathering of granite was likewise studied. The

chemical results are compared with weathering of granite in lower latitudes and conclusions offered with respect to temperature and precipitation relationships under arctic conditions.

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**44053.** BLESS, R. C., and others. Eastwest motions in the aurora. (Astrophysical journal, July 1955. v. 122, no. 1, p. 205–206.) 6 refs. Other authors: C. W. Gartlein and D. S. Kimball.

Studies by Cornell University and the National Geographic Society, begun in 1938, indicate that while active auroral forms generally move westward before midnight and eastward afterward, there are many exceptions, that this is a trend rather than the rule. Instances (at least 247) of eastward or westward movement of the aurora were recorded by Carlheim-Gyllensköld (Arctic Bibliography, No. 2874) at Kapp Thordsen (78°20' N. 15° E.), Vestspitsbergen, in 1882–1883. These showed almost no dependence of motion on time. Copy seen: DLC.

**44054. BLOCH, IVAN.** Alaska's power resources, in relation to mineral development. (Pacific builder and engineer, July 1956. v. 62, no. 7, p. 98+, map.)

Contains excerpts from a paper presented at the meeting of the Electrochemical Society in San Francisco in Apr. The hydro-electric potential of southeast and southwest Alaska is discussed, especially, in the former, the Yukon-Taiya project near Skagway. Mineral resources requiring potential power development include magnetite in the Klukwan area near Haines, nickelbearing ores in the Tokobi-Chichagof-Baranof Island area, and copper-bearing ores in various parts of the Archipelago. The largest individual hydro-electric potential in the SW region is that of the Copper River. A tentative list is given of projects in all regions of Alaska with more than 5000 kw. potential. The estimated installed capacity totals 15,673-16,145 megawatts. Copy seen: DLC.

44055. BLOCK, L., and N. HERLOF-SON. Numerical integration of geomagnetic field lines. (Tellus, May 1956. v. 8, no. 2, p. 210–15, tables.) 9 refs.

An electronic computer was used to establish the end points of geomagnetic lines in the Southern Hemisphere, beginning at a number of stations in the North Hemisphere. Knowledge of the location of these corresponding geomag-

netic locations is helpful in establishing magnetic and auroral stations. The results are tabulated showing the geographic and geomagnetic coordinates of starting and ending points on the earth's surface of 123 geomagnetic field lines. Starting points include latitude as far north as 88.6° and include such stations as Thule, Bjørnøya, and Fairbanks.

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BLOCKER, T. G., Jr., see Pomerat, C. M. and others. Thermal stress and tissue culture, 5... enhance outgrowth... cold injury ... 1954. No. 47400.

44056. BLOK, GEORGII. Podzemnafa sokrovishchnifsa. (Ūnost', Mar. 1956, no. 3, p. 92–98, illus., map.) Text in Russian. *Title tr.:* Subterranean treasure-house.

Contains brief history of the discovery and exploration of the Kursk magnetic anomaly (Kurskafa magnitnafa anomalifa, KMA) in the U. S. S. R., caused by large iron ore deposits deep underground. Hypothesis is advanced by M. I. Kalganov, chief of Laboratory of Iron Ore Deposits of the Institute of Geological Sciences of the Academy of Sciences (p. 93-95) that these deposits extend northward to the Kola Peninsula and Arctic Basin reaching the submarine Lomonosov Range. Copy seen: DLC.

BLOKH, G., see Budnikov, P., and G. Blokh. Kosvennafa . . . morozostof-kosti . . . materialov. 1956. No. 44181.

44057. BLOMKVIST, EVGENIA ĖD-UARDOVNA, 1890–1956. Krest'ianskie postrotki russkikh, ukraintsev i belorusov; poselenia, zhilishcha i khozaitstvennye postrotki. (Akademia nauk SSSR. Institut ėtnografii. Trudy, 1956. nov. seria, t. 31. Vostochnoslavianskii ėtnograficheskii sbornik, p. 3–458, 120 illus. incl. plans, maps (some fold.), tables.) Refs. Text in Russian. Title tr.: Peasant structures of Russians, Ukrainians and White Russians; communities, housing and outbuildings.

Includes extensive, though scattered, information on 19th and 20th century buildings of northern Russia and Siberia, especially in Arkhangel'skaya Oblast'. The Severnaya Dvina valley villages (p. 30), log house (p. 71, 148) and roofing materials and techniques (p. 100, 107, 109), use of mica for window panes (p. 120), pile-structures on the Suma River (p. 160), etc., are mentioned. The north

Russian two-story house-barn combinations (p. 161-72), house planning and room furnishing (p. 218-19 and map, p. 235) are discussed. Winter and summer fishing and hunting cabins along the Ob' and Yenisey Rivers, on Dikson Island and the Taymyr coast, on Kolyma and Anadyr' Rivers, in Kamchatka, etc. (p. 244-50) are described. Wells and (in permafrost areas) water holes in river and lake ice (p. 291-93), outbuildings, granaries of the far North (p. 308-309) and fish smokehouses in Yakutia and Kamchatka (p. 336-37) are depicted. Decorative wood carving (p. 340, 365) and painting (p. 401), furniture (p. 433), and Russian influence on the native architecture of Siberia, particularly Yakutia (p. 450-51) are included. Indexes of illus. (p. 759-62) and subject matter (p. 767-85) are appended. Copy seen: DLC.

BLOMKVIST, EVGENIÂ ĖDUAR-DOVNA, 1890–1956, ed., see also Zagoskin, L. A. Puteshestviâ . . . 1842– 1844 . . . 1956. No. 49031.

**44058. BLOOD, BENJAMIN D.** Notes on hydatid disease control. (*In:* Alaskan Science Conference . . . 1952. Proceedings, *pub.* 1954, p. 149–50.) 4 refs.

Contains information on the geographic distribution of the disease (worldwide, including Alaska); international cooperation in its combat; the two avenues of interrupting the life cycle of the parasite and thus preventing spread of the disease; successes in Iceland, etc.

Copy seen: DGS.

BLOSSOM, FREDERICK AUGUSTUS, 1878—, see Explorers Club. Told . . . Explorers Club . . . tales . . . . 1931. No. 44832.

BLOUNT, SAMUEL GILBERT, 1917—, see Hicks, C. H., and others. Electrocardiographic changes . . . hypothermia and circulatory occlusion. 1956. No. 45543.

44059. BLUHME, EMIL, 1833–1926. Fra et ophold i Grønland, 1863–64; uddrag efter lieutenant i Søetaten E. Bluhmes bog. Udg. med en indledning ved Svend Dahl. København, Berlingske bogtr., 1952. 85 p. plates (part col. & fold.). Text in Danish. Title tr.: From a sojourn in Greenland 1863–64; extracts from Naval Lieutenant Emil Bluhme's book; edited with an introduction by Svend Dahl.

Selections from No. 1722 of Arctic

Bibliography. Bluhme's characterization of the Greenlanders and their way of life, shortcomings of the Danish administration of the colony and recommended changes, his criticism of mission and trade practices, etc., are noted by the editor (p. 7–12). Although opinionated and unaware of the nature of future developments, Bluhme had some ideas later put to good effect; e. g. he asserted Denmark's obligation to treat the natives as an equal people. Copy seen: DLC.

BLUMENTHAL, FRED, see Anderson, J., and F. Blumenthal. The Arctic, hot spot in cold war. 1954. No. 43629.

**44060. BLUMER, LEON.** University Peak in Alaska: John McCall Memorial Expedition, 1955. (Canadian alpine journal, 1956. v. 39, p. 36-41, 2 illus.)

Contains popular account of reconnaissance of the west ridge of Mt. Blackburn (16,525 ft.) in the Wrangell Mts. by a five-man party, led by K. Hart, in late May-early June; first ascent of University Peak (15,030 ft.) and third ascent of Mt. Bona (16,240 ft.) in late June by a sixman group. Copy seen: DGS.

BLYTERUD, A., see Vidme, T., and A. Blyterud. Orienterende forsøk . . . 1950. No. 48741.

BOBO, CLAUDE GARY, see Jaulmes, C., and others. Métabolisme de l'alcool . . . 1956. No. 45774.

44061. BÓBR, JAN, and R. REMBI-ESA. O zmiennocieplności po chlorpromazynie. (Polski tygodnik lekarski, 1956. rok 11, no. 24, p. 1057–59, illus.) Ref. Text in Polish. Summaries in Russian and English. Title tr.: On poikilothermia following chlorpromazine.

Account of experiments with rabbits, guinea pigs and mice. Temperature changes were obtained only under certain conditions and not generally, as claimed by some French investigators; the results also appear to refute Decourt's hypothesis on the "narcobiotic" effect of this drug.

Copy seen: DNLM.

44062. BOCH, S. G., and I. I. KRAS-NOV. K voprosu o granifse maksimal'nogo chetvertichnogo oledenenifa v predelakh Ural'skogo khrebta v svížzi s ablůdenifami nad nagornymi terrasami. (Akademifa nauk SSSR. Komissifa po izuchenifu chetvertichnogo perioda. Bůl-

leten', 1946. no. 8, p. 46-72, illus., figs., maps incl. 1 fold.) 50 refs. Text in Russian. Summary in English. *Title* tr.: The boundary of the maximum Quaternary glaciation in the Ural Range from observations of the mountain terraces.

The limits of maximum glaciation in the Urals, including the northern part, were studied on a basis of the terraces formed by frost-solifluction processes and their relation to the processes of weathering, erosion, abrasion and karst formation. These terraces diminish progressively from south to north. The boundary of glaciation, with its southernmost part crossing 58° N., is shown (text map, p. 68) as are the boundaries drawn by former investigators between 57° and 62° N. (fold. map). Data on the geomorphology and evidences of glaciation in the Northern Ural are included.

Copy seen: DLC.

BOCHAROVA, Z. Z., see Chistîakov, F. M., and Z. Z. Bocharova. Vliîanie nizkikh temperatur na razvitie mikroorganizmov, 4 . . . 1938. No. 44348.

44063. BODILOVSKIĬ, V. A., and others. Zagotovka torfa na udobrenie s primeneniem mashiny UMPF-4 i uchet torfa. (Akademiĥa navuk BSSR, Minsk. Instytut torfa. Trudy, 1956. t. 5, p. 32-46, illus., tables, diagr.) Text in Russian. Other authors: F. A. Malyshev and M. V. Anuchkin. Title tr.: Preparation of peat fertilizer with the machine UMPF-4 and production.

Two machines and their operation for preparation of the surface, excavation and storage of peat products are described with indication of specific production characteristics (size, amount and time).

\*Copy seen: DLC.\*

BODILOVSKIĬ, V. A., see also Tishkovich, A. V., and V. A. Bodilovskiĭ. Razvedka . . . torfa na udobrenie . . . 1956. No. 48412.

BODNARSKIĬ, MITROFAN STEPANO-VICH, 1870–1953, see Osipov, K. S.I. Chelîuskin . . . 1951. No. 47207.

44064. BODVARSSON, GUNNAR. On the flow of ice-sheets and glaciers. (Jökull, 1955. Årg. 5, p. 1–8, 3 graphs.) 4 refs.

"Differential equations for the form of a flowing thin ice-sheet are derived by the boundary condition that the shear stress on the bed is proportional to the product of the thickness and the gliding velocity. The general mathematical character of the equations, stability of solutions and the response of ice-sheets to climatic variations are discussed."-Author's abstract. Copy seen: DGS.

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44065. BÖCHER, TYGE WITTROCK, 1909- . Arktisk station på Disko, 50 års jubilaeum. (Grønland, Dec. 1956, nr. 12, p. 457-63, illus.) Text in Danish. Title tr.: The Arctic Station on Disko, 50th anniversary.

Recounts history of the station, founded in 1906 by Morten P. Porsild and taken over by the University of Copenhagen in 1953. Some of the local flora is described: the site and its immediate neighbourhood has a rich one.

Copy seen: DLC.

44066. BOEING MAGAZINE. Cold starter. (Boeing magazine, Jan. 1956. v. 36, no. 1, p. 14-15, illus.)

A brief account is given of testing of a commercial gas turbine-powered air supply cart used to provide compressed air to start the large jet engines of B-52 aircraft. The winterized starter carts performed satisfactorily at temperatures down to -65° F. in the cold chamber at Eglin Air Force Base, Fla. Copy seen: DLC.

44067. BOGACKI, BOGDAN, and others. Badania doświadczalne nad przemianą elektrolitów oraz tlenu i dwutlenku wegla we krwi u psów w obniżonej ciepłocie ciała. (Polski przegląd chirurgiczny, 1956. t. 28, no. 8, p. 895-98, tables.) Text in Polish. Other authors: K. Bentke, W. Jurczyk, and K. Stengert. Title tr.: Experimental studies on metabolism of electrolytes, oxygen and carbondioxide in the blood of hypothermic dogs.

Author found that below 28° C. a significant lowering of vital processes took place. The drop in serum-potassium is not concomitant with an increased elimination through the kidneys, and it is assumed that it moves into the cells. The O2 and CO2 content of the venous blood indicates an increased acidity.

Copy seen: DNLM.

BOGAERT, ÉGLANTINE, see Malmejac, J., and others. Résistance des centres nerveux supérieurs à l'hypothermie . . . 1956. No. 46588.

BOGAEVSKII, V. T. "Figur-44068. noe" svechenie v Okhotskom more. (Priroda, Oct. 1956, no. 10, p. 112-13, Text in Russian. Title tr.: "Figured" luminescence in the Okhotsk

Contains description of a brightly lighted ring on the sea surface, which moved with great speed and was clearly visible for one-and-a-half to two minutes; this phenomenon was seen twice. observations were made in the night of Sept. 9-10, 1953, near Cape Aniva during a trip of the vessel of the Sakhalin Section of the Pacific Institute of Fisheries and Oceanography. Copy seen: DLC.

BOGARDUS, GEORGE M., 44069. and R. J. SCHLOSSER. The influence of temperature upon ischemic renal damage. (Surgery, June 1956. v. 39, no. 6, p. 970-74, illus.) 5 refs.

Two hours of renal pedicle occlusion produced considerable rise of blood creatinine in three out of five dogs. Cooling the kidney during this period resulted in a less marked increase in creatinine. Chilled and occluded kidneys produced more quickly and larger volumes of phenolsulfonephtalein than not-chilled kidneys. Copy seen: DLC.

44070. BOGATOVA, GALINA PE-TROVNA, and M. N. IAKOVLEVA. Literatura o Sibiri i Dal'nem Vostoke. (Klub, Sept. 1956. god 6, no. 9, p. 26-27.) Text in Russian. Title tr.: Literature on Siberia and the Far East.

Review of popular science, expeditions and juvenile literature (1948-1956). Publications on Krasnoyarskiy Kray, Yakut A. S. S. R. and Magadan are included. Copy seen: DLC.

44071. BOGDANOV, B. Opyt pod"ema na bereg sudov v zimnee vremîa. (Morskol flot, Mar. 1950. god 10, no. 3, p. 42-43, illus.) Text in Russian. Title tr.: Lifting boats ashore during winter.

The beaching of small boats and barges from ice-covered or ice-infested waters may be facilitated by ice accretions on the bottom of the craft: numerous small pieces of ice driven under the boat by the propeller raise it. The ice frozen directly to the bottom plate can be loosened from inside with heaters or wood fires, and the craft dragged on shore.

Copy seen: DLC.

44072. BOGDANOV, K. Dnevniki sannykh pokhodov G. IA. Sedova. (Neva, Nov. 1956, no. 11, p. 189.) Text in Russian. Title tr.: Diaries of the sledge trips of G. IA. Sedov.

Describes discovery of new documents

(diaries and maps) from the first wintering of Sedov's 1912–1914 expedition on the Sv. Foka off the Novaya Zemlya Coast.

Copy seen: DLC.

BOGDANOVSKA ÎA-GIENEF, IVONNA DONATOVNA, 1886 - , see Obruchev, S. V. Spravochnik puteshestvennika . . . 1949-50. No. 47123.

44073. BOGEN OM KNUD, skrevet af hans venner. København, Westermann, 1945. 309 p., illus., ports. 5th ed. Text in Danish. *Title tr.:* The book about Knud, written by his friends.

contributions commemorating Knud Rasmussen, viz: The sportsman Knud Rasmussen, by Johannes V. Jensen (p. 11-21); From schooldays, by Herluf Møller (p. 25-38); The young Knud, by Erik Rindom (p. 41-51); Knud Rasmussen as a traveling companion, by Count Harald Moltke (p. 55-103); Companion Knud, by Peter Freuchen (p. 107-156); With Knud Rasmussen over sea and land, by Captain F. C. S. Bangsbøll (p. 159-97); A character portrait, by Kaj Birket-Smith (p. 201-225); Knud and Olsen from Vognmagergade (a literary mentor), by Tom Kristensen (p. 229-53); The expedition leader, the friend, the person, by C. C. A. Gabel-Jørgensen (p. 257-310); and It is Knud who is dead, by Tom Kristensen (p. 312-13). A chronology of the main activities of his life is added. Copy seen: DLC.

44074. BOGORAZ, VLADIMIR GER-MANOVICH, 1865–1936. Cultural and scientific work among primitive tribes of Siberia. (Washington Academy of Sciences. Journal, Apr. 19, 1929. v. 19, no. 8, p. 167–68.)

Conlains notes on some 20 tribes (Chukchis, Koryaks, Kamehadals, etc.), in all a population of 150–200 thousand, brought to destitution by the Revolution. In 1924 a special Committee for Assisting the Lesser Nationalities of the North was organized in the U. S. S. R. which introduced and carried through measures of improvement, established "cultural bases" and 50 schools. Expeditions to study these peoples' social culture, religion, etc., are noted.

Copy seen: DLC.

44075. BOGOROV, VENIAMIN GRI-GOR'EVICH, 1904- . Issledovaniā na ėkspedifisionom sudne "Vitifaz'" v Tikhom okeane. (Akademiâ nauk SSSR. Izvestifa, serifa geograficheskafa, Mar.- Apr. 1956, no. 2, p. 3-5, maps.) Text in Russian. *Title tr.:* Investigations on the research vessel *Vitûa*' in the Pacific.

Explorations during cruises of the Vitāz' during 1949-55 are outlined, including the 21st and 22d, in 1955; the 21st expedition explored the northern part of Kuril-Kamchatka trench and the western part of the Aleutian trench, to 7,200 m. depth. Copy seen: DLC.

44076. BOGOROV, VENIAMIN GRIGOR'EVICH, 1904—. Peculiarities of diurnal vertical migrations of zooplankton in polar seas. (Journal of marine research, 1946. v. 6, no. 1, p. 25–32, diagr., tables.) 17 refs.

Vertical migrations were studied in the Barents and White Seas during summer and in the Barents and Kara Seas during autumn. Such studies in polar areas are of particular value since they permit a ready evaluation of the effects of varying light conditions ranging from uninterrupted daylight to permanent darkness. Diurnal vertical migration in polar seas is subject to great seasonal changes. In summer with continuous daylight, the animals maintain an almost invariable vertical distribution. In autumn with alternating day and night the same animals perform the usual migrations common in lower latitudes.

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44077. BOGOROV, VENIAMIN GRI-GOR'EVICH, 1904—. Plovuchii institut. (Vokrug sveta, Dec. 1956, no. 12, p. 18–20, illus.) Text in Russian. *Title tr.*: The floating institute.

Popular sketch of oceanographic work in the northwest Pacific by the research vessel Vittaz'. Since 1949, the vessel with her 72-man crew, 60 scientists and 12 scientific laboratories, has made over 3,500 scientific stations on 22 trips, logging some 150 thousand miles. Discovery of the Kuril-Kamchatka Trench and the submarine range Vityaz' and deep-sea investigations are noted. Photographs by N. Zenkevich show the vessel, some equipment (nets, etc.), and faunal specimens. Copy seen: DLC.

BOHR, VERNON C., 1924—, see Bartlett, R. G., and others. Comparative . . . restraint (emotional) hypothermia, laboratory animals. 1956. No. 43891.

BOHR, VERNON C., 1924- , see also Bartlett, R. G., and others. Gross muscular activity . . . temperature regulation . . . restrained rat. 1956. No. 43892.

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44078. BOĬTŠOVA, A. F. Osobennosti v semantike i slovoobrazovanii ėvenkiiskogo glagola v sravnenii s russkim glagolom. (In: Akademiiā pedagogicheskikh nauk RSFSR, Moskva. Institut nafsional'nykh shkol. Rodnol i russkii fazyki . . ., 1956. p. 146–96.) 3 refs. Text in Russian. Title tr.: Peculiarities of semantics and word-formation of the Evenki verb as compared with the Russian verb.

Analyzes the differences and similarities between Evenki (Tungus) and Russian verb usage and morphology. The complexity of meaning and variations in connotation of seemingly analogous verbs are discussed and examples given from verbs of motion, action, speech and thought, etc.

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**44079. BOLGAROV, N.** Rybozavod v okeane. (Znanie-sila, Dec. 1956. god 31, no. 12, p. 33–38, illus.) Text in Russian. *Title tr.*: A fishing factory in the ocean.

Sketches operations of Soviet fishing trawlers in the North Atlantic and Barents Sea. The 3,670-ton Pushkin with a 2,000 hp engine joined the Murmansk fishing fleet in July 1955. Special features of her construction, trawling methods, and processing facilities are described. Three similar vessels, the Gogol', Nekrasov and Dobrol@bov are already operating in the Barents Sea; 30 trawlers of the same class are to join the Murmansk fleet in 1956 (1957?). This fishery's catch of 7.5 million cwt. is to rise, according to the plans, to 15 millions in 1960.

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**44080. BOLIN, ROLF LING, 1901** A revision of the genus *Icelinus* Jordan. (Copeia, Nov. 15, 1936, no. 3, p. 151–59.)

Contains a discussion and description of the genus, an artificial key to the species and a list of seven, with diagnoses, synonymy, distributional data and record of specimens. I. burchami (from Behm Canal in Southeast Alaska to California) and I. borealis (from Attu Island to Puget Sound) are included.

Copy seen: DLC.

44081. BOLLES, TIMOTHY DIX, d. 1892. Chinese relics in Alaska. (U. S. National Museum. Proceedings, Aug. 2, 1892. v. 15, no. 899, p. 221, plate.)

Contains illus, and notes on a wooden mask taken from the grave of an Indian

medicine man, near Chilcat village, Alaska. It has for eyes two large bronze Chinese temple coins. Suggestion is made that the coins were obtained about two hundred years ago from a junk, driven on the coast.

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44082. BOLOTNIKOV, NIKITA ĀKOV-LEVICH. Nikifor Begichev. Moskva, Gos. izd-vo geograficheskof lit-ry, 1954. 263 p. port., illus., maps (1 fold.) Text in Russian. *Title tr.:* Nikifor Begichev, 2d edition, revised and enlarged.

New edition of No. 38915, q. v. A. V. Kolchak is now mentioned, though disparagingly, as head of the Toll search expedition to Bennet Island. Glossary of local and marine terms and folded map of routes of expedition on the Zar@ and of its search are added

Copy seen: DLC.

BOLOTNIKOV, NIKITA AKOVLE-VICH, see also Al'banov, V. I. Im Reich des weissen Todes. 1956. No. 43553.

BOL'SHAKOV, V. S., see Leningrad. Arkticheskiĭ nauchno-issledovatel'skiĭ institut. Instruksiiâ . . . glubiny moriâ i . . . grunta. 1944. No. 46307.

BOLTON, THOMAS E., see Buehler, E. J. The morphology . . . Halysitidae. 1955. No. 44183.

44083. BONADONNA, T. Il fattore luce nei riguardi dell'attività testicolare e di altre ghiandole endocrine. (Annali di ostetricia e ginecologia, 1956. anno 78, no. 1, p. 213–30, illus.) 27 refs. Text in Italian. Summary in English. Titte tr.: The light factor in the activity of the testicles and other endocrine glands.

Account of experiments with mature and immature cocks exposed to continuous darkness, or continuous light or to normal conditions. Continuous light or darkness produced a reduction of semen quantity, abnormal spermatozoa and a decrease in size and weight of the testes; in immature animals the normal epithelium development was hindered. The pituitary in the experimental animals showed no clear changes, whilst the thyroid showed evidence of hyperactivity.

Copy seen: DNLM.

44084. BONADONNA, T., and G. C. POZZI. Osservazioni sulle modificazioni sopravvenute nei Gallus gallus, mantenuti in particolari condizioni di luee e di oscurità od accecati. (Folia endocrino-

logica, 1956. v. 9, no. 3, p. 347-63, illus., tables.) 3 refs. Text in Italian. Summary in English. *Title tr.:* Observations on modifications brought about in *Gallus gallus* kept under special conditions of light and darkness, or blinded.

Excessive light or total darkness caused morphological and functional involution of gonads, and in pubescent animals, abnormal evolution of the seminal epithelium; in both light or darkness thyroids showed histological changes indicating hyperactivity. Blinding caused similar testicular and thyroid changes especially in animals kept under conditions of normal or continuous light exposure.

Copy seen: DNLM.

BONCH-OSMOLOVSKAÑ, K. S., see Leningrad. Nauchno-issledovateľskiľ institut geologii Arktiki. Metodicheskie issledovanim po geokhimii . . . 1956. No. 46312.

BOND, J. J., see Northern affairs bulletin. 1956-in progress. No. 47091.

BONDAM, J., see Norsk geologisk tidsskrift. Second Nordic Geologic . . . meeting . . . 1956. No. 47080.

44085. BONFANTI, N. Bolidi sulla terra. (Universo, Jan.-Feb. 1956. Anno 36, no. 1, p. 85-88.) Text in Italian. *Title tr.*: Meteors on the earth.

Contains brief description of magnetic anomalies discovered by recent Soviet and Canadian arctic expeditions and survey parties, of meteors known to have struck earth, and main meteorite craters, with particular attention to Chubb Crater on northern Ungava Peninsula (61°17′ N. 73°40′ W.).

Copy seen: DGS.

BONIN, JOHN H., see Armour Research Foundation. Investigation of solar energy for ice melting . . . 1949. No. 43736.

BONINI, WILLIAM EMORY, 1926—, see Woollard, G. P. and others. The establishment . . . international gravity standard. 1956. No. 49007.

BONNEVIE, KRISTINE, 1872– , see Rees, W. J. A revision . . . gymnoblastic hydroids . . . 1956. No. 47546.

44086. BONNIER, C., and C. SIRON-VAL. Influence of day-length on nodule formation in Soja hispida by a specific Rhizobium strain. (Nature, Jan. 14, 1956. v. 177, no. 4498, p. 93–94, illus.) Account of experiments with plants exposed to 8-hr. and 16-hr. daily illumination. "It was observed that the *Rhizobium* was able to colonize perfectly the roots of plants in the case of the 16-hr. day, whereas for an 8-hr. day colonization remained very feeble."

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BONNLANDER, BENJAMIN HOXSIE, 1930- , see Power, G. Biological work . . . . George River . . . 1956. No. 47440.

BONNLANDER, BENJAMIN HOXSIE, 1930-, see also Thompson, H. R., and B. H. Bonnlander. Temperature measurements...cirque bergschrund...1956. No. 48377.

44087. BONSHTEDT, ÉL'ZA MAKSI-MOVNA. Novye mineraly, II-III. (Vsesofûznoe mineralogicheskoe obshehestvo. Zapiski, 1956. ser. 2, chast' 85, no. 1, p. 75–82; no. 3, p. 373–85.) Text in Russian. *Title tr.:* New minerals, II-III.

Includes (in pt. II, p. 81) chemical, morphological, crystallographic and optical data on labunzovite, a new mineral found in the pegmatites of Lovozerskaya Tundra in Kola Peninsula, and described originally by E. I. Semenov and T. A. Burova (No. 42385). In pt. III, p. 373, is a redescription of hawleyite, discovered in Yukon Territory and described first by R. J. Trail, and R. W. Boyle (No. 42860). Pt. I of this paper does not contain arctic material.

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BONSHTEDT, ÉL'ZA MAKSIMOVNA, see also Semenov, E. I. Vinogradovit . . . 1956. No. 47893.

BONTKE, E., see Behman, F. W. and E. Bontke. Intravasale Kühlung . . . 1956. No. 43924.

BOOKER, WALTER MONROE, 1907-, see Mitchell, S. Q., and others. Doseresponse . . . hypothermia. 1956. No. 46789.

BOONE, R. D., see Shumacker, H. B., and others. Ventricular fibrillation . . . hypothermic state, 4 . . . role . . . innervation. 1956. No. 47981.

44088. BORDOVSKIĬ, O. K. Izuchenie konsistentsii nekotorykh sovremennykh morskikh osadkov. (Akademiia nauk SSSR. Institut okeanologii. Trudy, 1956. t. 17, p. 137-40, tables.) 5 refs. Text in Russian. Title tr.: Study of consistency of some present marine de-

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Information is presented on factors making up resistance to deformation (plasticity) of marine deposits; views and theories on this subject; instruments for measuring plastic deformation (penetrometers); data on various deposits of the Okhotsk Sea obtained with such apparatus; analysis and explanation of data.

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44089. BORDOVSKIĬ, O. K. Nekotorye dannye o glinistykh mineralakh osadkov severo-zapadnof chasti Tikhogo okeana. (Akademiñ nauk SSSR. Institut okeanologii. Trudy, 1956. t. 17, p. 133–36, map.) 5 refs. Text in Russian. *Title tr.*: Some data on argillaceous minerals in the sediments of the northwestern part of the Pacific Ocean.

Account on determinations of these minerals in six columns of deep-sea deposits 1–4 meters long. The samples were taken in the center and southeastern slopes of the Kuril Trench, off southeast Kamehatka at depths varying from 4800–7800 meters. The terrigenous nature of these minerals is established.

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44090. BOREMAN, PER. Laestadianismen; Fennoskandiens märkligaste väckelse och dess förhållande till kyrkan. Stockholm, Svenska kyrkans diakonistyrelses bokförlag, 1953. 291 p. Approx. 300 refs. Text in Swedish. Title tr.: Laestadianism: Fennoscandia's most remarkable revival and its relation to the church.

Monograph, extensively documented, on the religious revival in Swedish Lapland, led by Lars Levi Laestadius (1800-1861). Church missions and social conditions among the Lapps are sketched. Laestadius' life and his work as naturalist (writings cited p. 21), also 19th century religious development generally are out-The course of his evangelical lined. activities is treated in detail. The basic teachings of Laestadianism, a revival within the Lutheran church, are presented, and its present situation discussed. Copy seen: DLC.

44091. BORENIUS, GUSTAF. Bestigningar 1955. (Till Fjälls, Svenska fjällklubbens årsbok, 1955, pub. Spring 1956. Årg. 27, p. 62–64.) Text in Swedish. Title tr.: Ascents in 1955.

Lists mountain ascents made by

Swedes in 1955, including those in north Sweden and Norway.

Copy seen: SPRI.

44092. BORENIUS, GUSTAF. Intrycksböckerna i Kebnekaise: kring tre av den svenska alpinismens kanoniska skrifter. (Till Fjälls, 1956. Årg. 28, p. 34–41, illus.) Text in Swedish. *Title tr.*: The books of impressions at Kebnekaise; on three of the canonical writings of Swedish alpinism.

Contains summaries and quotations from entries in visitors' books, at Kebnekaise (67°54′ N. 18°30′ E.) mountain stations. The three volumes of climbers' impressions and comments from 1908 to the present, indexed, together form a record of first ascents and routes in the Kebnekaise region. Copy seen: SPRI.

44093. BORENIUS, GUSTAF. Sarekpakte, en upptäckt. (Till Fjälls; Svenska fjällklubbens årsbok 1955, pub. Spring 1956. Årg. 27, p. 40–47, 65, illus.) Text in Swedish. Title tr.: Sarekpakte, a discovery.

Describes a first ascent made by the author and three companions in summer 1955, of Sarekpakte, approx. 1,925 m., a peak in Sarektjåkko, 67°27′ N. 17°40′ E., north Sweden.

Copy seen: SPRI.

44094. BORENIUS, GUSTAF. Våra bestigningar 1956. (Till Fjälls 1956. Årg. 28, p. 62–64.) Text in Swedish. *Title tr.:* Our ascents 1956.

Lists ascents made by Swedes in 1956 including about 20 in north Sweden in the Kebnekaise, Sarek and Vistas regions (Kebnekaise 67°54′ N. 18°30′ E., Sarekjäkko 67°27′ N. 17°40′ E., Vistas approx. 68°05′ N. 18°30′ E.). Dates, participants and routes are stated.

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44095. BORISOV, A. Stolknovenie s kashalotom. (Ogoněk, Nov. 1956. god 34, no. 48, p. 31, illus.) Text in Russian. *Title tr.:* Collision with a sperm whale.

Reports three cases of vessels running into sperm whales, in the Okhotsk Sea, off the Commander Islands and in the Antarctic; in two cases with serious damage to the ship. Copy seen: DLC.

44096. BORISOV, G. V Anabarskot tundre. (Okhota i okhotnich'e khozalistvo, Feb. 1956, no. 2, p. 8–10, illus.) Text in Russian. *Title tr.:* In the Anabar tundra.

Sketches trapping of arctic fox in the Anabar basin and on the Laptevykh Sea coast: trapping devices, fox migration, fluctuation of the catch according to abundance or scarcity of lemmings, etc.; achievements of outstanding hunters, activities of collective farms, need to extend hunting to off-shore islands; 148 professionals and 100 amateurs hunt fur animals in this area. Copy seen: DLC.

44097. BORISOV, P. Rabota vetrodvigateleĭ v usloviîakh severa. (Radio, Apr. 1956, no. 4, p. 21–22) Text in Russian. *Title tr.*: Wind motors under

conditions of the North.

Contains general discussion of the use of twin-blade windmills for driving the generator of a small electric installation for battery charger, radio and electric light in arctic regions. The work of two types of the wind motors (VDU-3.5, direct current, 27 volt, 1000 watt capacity, and VE-2, a. c., 10 v., 100 w.) used on Kola Peninsula are analyzed for wind velocities of 6 to 35 m/sec. Over 40 percent of the time throughout the year, wind velocity is over 5 m/sec. Practical suggestions were offered for starting, lubrication and maintenance under severe climatic conditions. Copy seen: DLC.

44098. BORISOV, S. Z. Torzhestvo nafsional'not politiki kommunisticheskol partii. (In: Akademifa nauk SSSR. Ākutskif filial. Institut fazyka, literatury i istorii. Vedushchafa rol' russkogo naroda . . . , 1955. p. 7–21.) Ref. Text in Russian. Title tr.: The triumph of the nationalist policy of the Communist party.

Industrial and economic achievements in Yakut A. S. S. R. since 1917 are outlined; advances in agriculture, education, public health, etc. are similarly sketched and some statistical data are given. The nationalistic tendencies in Yakut literature of the 1920's and 1930's are criticized and the importance of Russian cultural

influence is stressed.

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44099. BORNEMANN, CLAUS. Spiritus i Grønland. (Grønland, Mar. 1956, nr. 3, p. 99–112, illus.) Text in Danish. *Title tr.:* Alcohol in Greenland.

Restrictions on the sale of alcoholic drinks were lifted on Jan. 1, 1955; it is too early to assess effects, but consumption of spirits is estimated to have increased four or five fold since 1948. This increase is attributed to the changing conditions in Greenland society: adaptation to modern civilization is

accompanied by feelings of uncertainty and restlessness. Copy seen: DLC.

BORNSCHEIN, H. see Krejci, F., and H. Bornschein. Elektrophysiologische Untersuchungen . . . Schnecke. 1955. No. 46124.

44100. BORODIN, L. S. O rasprostranenii berillifa v Khibinskom shehelochnom massive i o klarke berillifa v nefelinovykh sienitakh. (Akademifa nauk SSSR. Doklady, Aug. 1, 1956. t. 109, no. 4, p. 811–12, table.) 4 refs. Text in Russian. Title tr.: Distribution of berillium in the Khibiny alkaline massif and average berillium index in the

nepheline-syenites.

V. M. Gol'dshmidt and K. K. Peters' work on the berillium oxide content in nepheline-syenites is discussed in regard to their excessive index (0.0036 percent Be). The berillium content in 90 localities of this massif is found by the author to vary between 0.00006 and 0.00008 percent (table 1), according to precise analysis and separation of rare minerals of the alkaline group (iolite, lusitanite and pedrosite).

\*\*Copy seen: DLC.\*\*

BORUM, VILLY, 1903—, see Denmark, Udenrigsministeriet. Greenland. 1956? No. 44601.

44101. BOSAEUS, LARS. Ute blåser sommarvind. (Svenska turistföreningen, Stockholm. Årsskrift, 1953, p. 216–27, 3 illus., 6 text maps.) Text in Swedish. *Title tr.:* The summer wind blows.

Dominance of high pressure air masses results in fair weather during the Swedish summer. Dates for beginning and end of summer, its length, number of days of 25° C. or more max. temperature, and those of thunderstorms, also the average June-August precipitation are included in map series. Mountain sections of the northwest have the greatest amount of summer rain.

\*\*Copy seen: DGS.\*\*

44102. BOSSOLASCO, M., and I. DAGNINO. Caratteristiche fisico-meteorologiche del manto nevoso. (Geofisica e meteorologia, July-Oct. 1956. v. 4 no. 4/5, p. 96-102, graphs.) 9 refs. Text in Italian. Title tr.: Physical-meteorological characteristics of the snow cover.

The relation between snow-cover characteristics and air temperatures is discussed in detail on the basis of long-period observations. The density of new snow generally decreases with air temperature during snowfall, reaching a minimum at

-11° C. and increases again below -17° to -18° C. Low-density snow is less susceptible to metamorphism than denser snow due to its poor thermal conductivity. Snow densities are usually lowest at 1200-1960 m. elevation in early Jan., increase to about 0.265 gm./cc. in mid-Feb., and reach 0.40 gm./cc. or more before the snow disappears. Snow-cover duration increases by 11-12 days/100 m. elevation. Data on density and shearing and ram resistance are graphed.

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BOTANICHESKIĬ ZHURNAL, see Lebedev, D. V., and S. ÎÛ. Lipshits. Bibliograficheskiĭ spravochnik . . . 1956. No. 46276.

BOTTERELL, EDMUND HENRY, 1906—, see Gunton, R. W., and others. Changes in cardiac rhythm . . . electrocardiogram . . . hypothermia . . . 1956. No. 45346.

44103. BOUGHNER, C. C., and others. Climatic summaries for selected meteorological stations in Canada; volume III; frost data. Toronto, 1956. 94 p. 6 text maps, graphs, tables. 14 refs. Other authors: R. W. Longley and M. K. Thomas.

Tables are based on available data to the end of 1950 for stations with at least two years of record. Stations reporting in main table of frost data include 13 in Yukon, 47 in Northwest Territories, 12 in northern Manitoba, two in northern Ontario, nine in northern Quebec, and ten in Labrador. For each is given: latitude and longitude, elevation, number of years of record, average frost-free period, last frost (spring), first frost (fall), frost-free season-extremes on record. Other tables, with fewer northern stations reporting, contain data on the probability of spring and fall frosts and length of frost-free period, average numbers of days with freezing temperatures. Graphs show percentage frequency of dates of last spring and first autumn frosts by weeks, including Dawson, Fort McPherson, Fort Norman, Hay River, Churchill. Climatic summaries v. 1 and 2, dealing with temperature, humidity, sunshine, precipitation, and wind are listed as No. 2796 and (addendum) 32891 of Arctic Bibliography. Copy seen: DWB.

**44104. BOUILLON, J.** Influence of temperature on the histological evolution of the ovotestis of *Cepea nemoralis* L.

(Nature, London, Jan. 21, 1956. v. 177, no. 4499, p. 142-43.) 4 refs.

Account of experiments with these snails kept at 0°, 6°, 23° C. and at seasonally varying temperatures. Low temperature (0° C.) inhibited all gametogenesis; at 6° C. the development of male germinal cells was inhibited, but development of primary gonocytes in the female direction was favored. Higher temperature promoted development in the male direction.

\*\*Copy seen: DLC.\*\*

44105. BOUISSET, LOUIS, and others. Action de l'hibernation expérimentale sur l'évolution de Trypanosoma equiperdum (Doflein 1901) chez le rat blanc. (Société de Biologie, Paris. Comptes réndus, 1956. t. 150, no. 6, p. 1277-80, illus. tables.) 3 refs. Text in French. Other authors: H. Harant and J. Ruffie. Title tr.: The action of artificial hibernation on the evolution of Trypanosoma equiperdum (Doflein 1901) in the white rat.

Report on the development of this parasite in the blood of hypothermic rats during periods of 36–96 hrs. Parasitemia in cooled animals developed much slower than in the controls, and the hypothermic animals also survived longer the infection.

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44106. BOURGOIN, JEAN-PAUL. Rapports scientifiques des Expéditions Polaires Françaises N III 4. Quelques caractères analytiques de la surface et du socle de l'inlandsis Groenlandais. (Annales de géophysique, 1956, t. 12, no. 1, p. 75–83, diagrs., tables, text map.) 3 refs. Text in French. Title tr.: Scientific reports of the Expéditions Polaires Françaises N III 4. Some analytical characteristics of the surface and base of the Greenland inland ice.

"The thickness of the Greenland icceap is determined mathematically according to J. F. Nye's method, and the principles of the methods are described. The topography and elevation of the bedrock and the microrelief of the ice surface are established, and their correlation is analyzed. Good agreement was found between calculated and observed values."—SIPRE. Copy seen: DGS.

**44107. BOVILL, EDVIN G.,** *Jr.* Observations on epiphyseal growth potential following temporary hypervitaminosis A. (Surgical forum, 1956. v. 6, p. 553-55, illus.) 2 refs.

Account of experiments with guinea pigs given 500-1000 international units of

vitamin A per gm. of body weight for 5–6 days. The results indicate that partial consumption of epiphyseal cartilage as a result of hypervitaminosis A can be followed by normal growth in space and time, provided the epiphyseal plate is not approaching maturity and closure.

Copy seen: DNLM.

BOWATER, S., see Hamilton, R. A., and others. British North Greenland Expedition, 1952–4 . . . results, 1956. No. 45412.

**44108.** BOWDEN, FRANK PHILIP, and D. TABOR. The friction and lubrication of solids. Oxford, Eng., Clarendon Press, 1950. xii, 337 p. diagrs., graphs, 33 plates, tables.

Includes a section on "The mechanism of sliding on ice and snow" (p. 65-72) in which the role of frictional heating as compared to pressure melting in the sliding of bodies over ice and snow is discussed on the basis of the literature, theoretical considerations, and various experiments. The results of laboratory tests and calculations indicate that the water film responsible for decreasing friction is formed as a result of frictional heating rather than pressure melting. The lubricating water layer is believed to be produced by friction. Friction rises at lower temperatures due to increasing difficulty for a water layer to form.

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BOWERMAN, CONSTANCE A., see Groves, J. W., and C. A. Bowerman. Sclerotinia borealis. 1955. No. 45319.

44109. BOWLES, K. L., and others. Auroral zone absorption of radio waves transmitted via the ionosphere. [College, Alaska] 1955. 911. illus., diagrs. (Alaska. University. Geophysical Institute. Task E, final report, Mar. 1, 1954–Feb. 28, 1955.) Process print. Other authors: R. B. Dyce and C. G. Little.

The first section describes a series of experiments carried out at College and at Point Barrow, Alaska, to determine the mode of propagation of auroral echoes. The results support earlier theories advanced which postulate an alignment of the auroral scattering centers along the earth's magnetic lines of force. Experiments were also made to study possible relationships between the occurrence of visual auroral forms and of V. H. F. auroral echoes. The results indicated that echo strength is not determined by

the luminosity of the visual forms although the scattering surfaces are located near by. Diurnal and seasonal variations in echo occurrence at College are described and the spectrum of the reflected radio signals is analyzed.

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44110. BOYER, MARC. Canada's mineral industry chalks up another record year. (Western miner, Nov. 1956. v. 29, no. 11, p. 33–36, illus.)

Includes mention of current activities in the iron ore regions of northern Quebec; the Sherritt Gordon nickel-copper operations at Lynn Lake, northern Manitoba; the Rankin Inlet nickel mines on the west coast of Hudson Bay; and the Yellowknife gold operations, Great Slave Lake.

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44111. BOYLE, ROBERT WILLIAM, 1920-, and others. Geochemical investigation of heavy metal content of streams and springs in the Galena Hill-Mount Haldane area, Yukon Territory. Ottawa, Queen's Printer, 1956. 12 p. 3 maps (2 fold.), table. (Canada. Geological Survey. Bulletin 36.) 2 refs. Other authors: E. L. Pekar and P. R. Patterson.

Describes completion of investigations in this lead-zinc-silver region (approx. 63°45′-64° N. 135°15′-136°05′ W.) being southwest of that described in No. 38962. Topography, climate and geological conditions are indicated, also character of the drainage system. Concentration of heavy metals (zinc, lead, copper) was established by the dithizone method. Results indicate that the heavy metal anomalies are centered principally on the belt of quartzites that underlie part of Galena Hill and Mt. Haldane and contain the principal lead-zinc-silver lodes. Prospecting should be concentrated in this belt. Copy seen: DGS.

44112. BOYLE, ROBERT WILLIAM, 1920- . The geochemistry and origin of carbon dioxide, water, sulphur, and boron in the Yellowknife gold deposits, Northwest Territories, Canada. (Economic geology, Jan.-Feb. 1956. v. 51, no. 1, p. 110-111.)

Contains abstract of paper presented at the annual meeting of the Society of Economic Geologists, Feb. 20–23, 1956, New York. Gold deposits of Yellowknife occur either in greenstones or in metasedimentary rocks. "Geochemically, the deposits in the greenstones represent

concentrations of silica, carbon dioxide, water, sulphur, arsenic, antimony, gold, and other metallic elements. Those in the sediments represent concentrations of silica, sulphur, boron, gold and other metallic elements." Formation of both types of deposits is explained.

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44113. BOYLE, ROBERT WILLIAM, 1920—. The geology and the geochemistry of the silver-lead-zinc deposits of Keno Hill and Sourdough Hill, Yukon Territory, preliminary report. Ottawa, Queen's Printer, 1956. 78 p. 9 maps (6 fold.), diagrs., 13 tables (1 fold.) (Canada. Geological Survey. Paper 55–30.) 21 refs.

Contains results of author's field work, 1953 and 1954, in the area 63°53′-59′ N. 135°03′-20′ W., thirty-five miles northeast of Mayo. Topography, glacial deposits, frost action, and climate are briefly described. Consolidated rocks belong to the Yukon group (Precambrian or Paleozoic) and consist of schists, phyllites and quartzites with conformable lenses and sills of greenstone (altered diorite or gabbro) in the lower schist and central The mineral dequartzite formation. posits are located in brecciated fault zones cutting the greenstones, quartzites, and phyllites. The fault systems, and the mineralogy and geochemistry of the mineral deposits are described in some detail. Genesis of the deposits is not discussed. Copy seen: DGS.

44114. BRADLEY, JAMES CHESTER, 1884— . The distribution of northeastern insects. (Entomological news, Dec. 1956. v. 67, no. 10, p. 257–61.)

Contains a discussion of the distribution of eleven insects, some occurring in Alaska and northern Canada. The author proposes and defines two terms: "austrad" meaning proceeding toward areas of increasing warmth, and "boread" proceeding toward areas of decreasing warmth. By using these terms and stating the northern limits of distribution also the austral limits, a scientist can indicate more clearly the distribution pattern and faunal affinities.

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44115. BRAIN, E. DOROTHY. Relationship between length of day and geotropic response in seedlings. (Nature, London, Feb. 18, 1956. v. 177, no. 4503, p. 323–24, table) 5 refs.

Additional illumination in the winter stimulated the quiescent geotropism,

making it approach summer conditions; extra light in the summer increased response to gravity above that of controls. Statolith distribution and size were also affected by additional illumination.

\*Copy seen: DLC.\*

BRANCADORO, G., see Mazzeo, F., and others. Studio . . . organi . . . ibernazione sperimentale. 1955. No. 46678.

44116. BRANDT, HERBERT W. A naturalist in Alaska. (Washington Academy of Sciences. Journal, June 4, 1926. v. 16, no. 11, p. 311.)

Notes author's trip with representatives of the U. S. Biological Survey and the Field Museum, in spring 1925, down the Yukon River to Hooper Bay, to study native birds and mammals. The first eggs were found on May 26 and the birds soon observed nesting freely: geese, ducks, sandpipers, plovers, cranes, ptarmigan, jaegers, gulls, etc. They lay six to nine eggs, at intervals of two-three days and begin to incubate at once.

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44117. BRANDT, PALLE. Lyttevaner is Grønland og fremtidens radiofoni. (Grønland, Oct. 1956, nr. 10, p. 361–70, illus.) Text in Danish. *Title tr.:* Listening habits in Greenland and the broadcasting of the future.

Results are presented of a listeners' survey in the spring of 1956. Less music and more informative programs on Greenland, lectures, interviews, etc., are wanted. Reception is poor, but the new transmitter in Godthåb begins operations in the spring of 1958. In 1955 there were 1,795 broadcasting hours (in 1952: 850). Plans are noted for relaying programs from the Danish broadcasting service.

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44118. BRANDT, PALLE. Thulebasen: med tog på indlandsisen. (Atuagagd-liutit: Grønlandsposten, July 12, 1956. Ukiut 96-iat, nr. 14, p. 6, 3-14, illus.) Text in Danish and Eskimo. *Title tr.*: The Thule base: by train on the inland ice.

Notes research on problems of transport on the inland ice carried out since 1952 by the Americans at Thule: experiments with tractor-drawn sledge-trains.

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44119. BRANDT, PALLE. Thulebasen, metropolis ved Nordpolen. (Atuagagdliutit: Grønlandsposten, June 14, 1956. Ukiut 96-iat, nr. 12, p. 9, 12–15, illus.; June 28, 1956. Ukiut 96-iat, nr. 13, p. 12-15, illus.) Text in Danish and Eskimo. *Title tr.:* The Thule base, metropolis at the North Pole.

Describes lay-out and organization of the U. S. Air Force base (76°34′ N. 68°48′ W.) in northwest Greenland, and day-to-day life there.

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44120. BRANTON, C. I., and H. WIM-MER. Preserving wood for Alaska's farms and homes. Fairbanks, Mar. 1956. 8 p. illus. tables (Alaska. University. Extension Service. Bulletin 803)

Contains general information on the action of chemicals in preserving wood. Instructions are offered in use of different preservatives for all kinds of timber, dry or green, particularly timber for fence posts, green houses, etc. The comparative value of five methods is discussed.

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BRARD, E., see Benoit, J., and others. Apparition . . . cycles sexuels . . . canard . . . obscurité totale. 1956. No. 43962.

44121. BRATBERG, ERLING H., 1922- . Ueren og uerfisket. (Naturen, 1956. årg. 80, nr. 2, p. 67–73, 2 diagrs.) Text in Norwegian. *Title tr.:* The rosefish and its fishing.

An international market has been developed recently for this fish, long used as a food fish in Nordland. The variety, Sebastes marinus, is economically interesting; its catch and commercial importance are considered as well as its biology, migrations and reproduction habits. It is found along the coasts of Norway, Novaya Zemlya, Bjørnøya, West Spitsbergen, Jan Mayen, and south Greenland and over large parts of the Barents and Norwegian Seas. Copy seen: DLC.

44122. BRAUER, RALPH WERNER, 1921—. The effect of hypothermia on the isolated perfused rat liver. (*In*: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia... symposium, Oct. 1955, *pub.* 1956. p. 235–42, illus.) 10 refs.

Cooling resulted in rise of blood viscosity which in turn affected the hemodynamics. Chromic phosphate colloid uptake, perfusate glucose levels and bile flow were lowered. The effects of hypothermia on uptake and excretion of sodium sulphobromophtalein disulfonate, are also discussed. Copy seen: DLC.

44123. BRAUER, RALPH WERNER, 1921—, and others. Temperature effects on radiocolloid uptake by the isolated rat liver. San Francisco, Sept. 20, 1956. iv, 16 p. illus., tables. (U. S. Naval Radiological Defense Laboratory. Technical report USNRDL-TR-112 NM006-015. 04.) 13 refs. Other authors: R. J. Holloway and G. F. Leong.

Account of investigations on the effects of lowered temperature (38° to 20° C.) on CrPO<sub>4</sub>-colloid uptake and blood flow of the isolated liver. The Q<sub>10</sub> for the uptake reaction was found to equal 1.92. Cooling was found to affect blood flow and distribution primarily by increasing blood viscosity. The implications of the findings to conditions in hypothermia of the intact animal are discussed.

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44124. BRAVI, G. Morbilità cutanea e fattori di localizzazione; la luce come stimolo di localizzazione. (Giornale Italiano di dermatologia e sifililogia, 1956. v. 97, fasc. 4, p. 293–382, illus., tables.) Text in Italian. Summary in English. Title tr.: Skin disease and localization factors; light as a localization stimulus.

An exhaustive study in three parts. Introductory section (p. 293-304) deals with the wave nature and structure of light; photons; radiation emissions of matter, etc. The following part (p. 304-327) covers photochemistry and its basic laws; photochemical molecular dissociation; photosensitivity and phototropism; fluorescence, phosphorescence, light absorption, etc. The third part (p. 327-71) deals with the photobiological aspects of various radiations; effect of radiations below 3,200Å, including u.v. (sunburn, erythema, "tanning" and their physiological and histological aspects); vital and curative aspects of this wave range; effects of solar radiation above 3,200A: solar urticaria, light allergies, effect on eyes, etc.; artificial light-sensitization. An extensive summary (p. 371-78) closes the study. As to the localization factor it is concluded that it "is individuated in the phenomenon of resonance."

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BRECKENRIDGE, WALTER JOHN, 1903—, see Gunderson, H. L., and others, Mammal jobservations . . . Back River . . . 1955. No. 45341.

44125. BREEV, K. A. Aktivnost' napadeniiâ kozhnogo, Oedemagena tarandi, L., i nosovogo, Cephenomyia trompe L., ovodov na severnogo olenfa i faktory, ee regulirufushchie. (Parazitologicheskif sbornik, 1956. v. 16, p. 155-83, illus., tables.) 21 refs. Text in Russian. Title tr.: Attacking activity of the skin and nose gadflies, Oedemagena tarandi L. and Cephenomyia trompe L, upon the reindeer and factors regulating it.

Account of investigation on seasonal fluctuations in the number of insects; development; external factors affecting their attacks on reindeer: temperature, light, relative humidity and wind, enemies of the gadflies and biological control, etc. Basic work was carried out at the Nar'yan-Mar station in Malozemel'skaya Tundra in 1947–48. Copy seen: DLC.

44126. BREGETOVA, N. G. Gamazovye kleshchi (Gamasoidea); kratkii opredelitel'. Moskva-Leningrad, Izd-vo Akad. nauk SSSR, 1956. 246 p. 562 illus. (In: Akademiâ nauk SSSR, Opred. po faune SSSR, no. 61) 190 refs. Text in Russian. Title tr.: Gamasid mites (Gamasoidea); a brief key.

Contains a systematic index to the super-family Gamasoidea and, in introductory part (p. 9-47), brief characteristics of gamasid mites; their ecological characteristics, development and biology, epidemiological and epizootic importance as transmitters of various epidemics of man and animals (table 2), and external morphology, are noted, as well as gathering of them, microscopic preparations, and methodics of laboratory rearing. In the special part (p. 48-225) are tables for the determination of 13 families, 44 genera and 127 species (males and females) of which four are new. These gamasid mites are chiefly parasites of rodents (74 out of 100 mammals) and birds (43 species). Some of the species are native to northern regions of European and Asiatic U. S. S. R. Index of mites arranged by the hosts (p. 225-31) also indices of mites' names and hosts', are appended. Copy seen: DLC.

44127. BREHM, VINCENZ, 1879—. Die Entomostraken. (Archiv für Hydrobiologie, Nov. 1955. Bd. 51, No. 2, p. 267–72, illus.) 8 refs. Text in German. *Title tr.*: The Entomostraca.

Deals with 16 species of these minute crustaceans, collected by A. Bauer in 1949 while with Expéditions polaires françaises in Greenland. They were taken from small lakes at 100-800 m. altitude in the vicinity of Eqe. Occur-

rence, sexual distribution, etc., are noted, and a local variation of Arcticocamptus cuspidatus, Schmeil is described.

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44128. BREĬTFUS, LEONID L'VO-VICH, 1864–1950. Trudy Murmanskoï nauchno-promyslovoï čkspediťsii 1906 goda. Otchet nachal'nika čkspediťsii. Petrograd, Tipogr. Kirshbaum, 1915. 13, 537 p. illus. tables, maps (G. U. Z. i Z. Departament Zemledeliía) 20 refs. Text in Russian. Title tr.: The work of the Murmansk Scientific-Industrial Expedition during 1906. Report by the head of the expedition.

Contains account of research activities in continuation of those of 1905 (No. 28290). In two parts, the first presents general review of the expedition (p. 1-48): its members and crew, activities of the research steamer Andrei Pervozvannyi (oceanography, meteorology, plankton and benthos studies), the area covered (Barents Sea, southwestern Kara Sea). and itinerary; fishing experiments and fisheries research along the Murman coast by the Rybak (chiefly for salmon), visits to the natives, etc. As in 1905, A. K. Linko (p. 49-68) deals with the plankton along the western Murman coast and its relation to the fishery. Fisheries of the Murman coast in 1906, especially cod and salmon fisheries, sealing and hunting are reported (p. 69-111) by Breitfus and N. N. Prigorovskil. Meteorological studies of various air strata, including observations of kites and clouds (p. 112-25) and work on sea currents (p. 126-33) are reported by BreItfus and A. P. Smirnov. Studies of true horizon, incline of refraction, humidity, etc., are presented (p. 134-44) by Breitfus and B. I. Sreznevskil.

Part II (p. 147–537) contains lists of stations and work done on them; journals and tabular data of zoological and fisheries research, of hydrographic, hydrochemical and meteorological observations, etc. Appended are maps, hydrological and dynamic profiles, etc.

Copy seen: SPRI; DLC (microfilm).

BREMNER, PETER C., see MacDonald,
L. R., and P. C. Bremner. Permafrost

drilling. 1956. No. 46523.

BREMNER, PETER C., see also Misener, A. D., and others. Heat flow . . . permafrost . . . Resolute Bay . . . 1956. No. 46787.

BRENDER à BRANDIS, G. A., see Nierstrasz, H. F., and G. A. Brender à Brandis. Three new genera... parasitic Crustacea. 1930. No. 47029.

BRENTANI, F., see Haefeli, R., and F. Brentani. Observations . . . cold ice cap. 1955, 1956. No. 45367.

44129. BREWER, MAX C., and G. R. MACCARTHY. Geothermal fluctuations in the permafrost at Point Barrow, Alaska. (In: Alaskan Science Conference . . 1952. Proceedings, pub. 1954, p. 169.)

Cyclic seasonal temperature fluctuations penetrate to 70 ft. depth, according to thermistor measurements; a small warming effect is noted at 70–100 ft.

Copy seen: DGS.

44130. BREWER, MAX C. Thermal disturbance in permafrost resulting from road construction. (Geological Society of America. Bulletin, Dec. 1956. v. 67,

no. 12, pt. 2, p. 1805-1806.)

Abstract of paper presented at the Seventh Alaskan Science Conference (AAAS), Juneau, Sept. 27–30, 1956. Studies were made on roads and/or gravel fills near Glennallen, Umiat, and Barrow, 1953–1956. Disintegration is related to transient increase in amplitude of seasonal ground-temperature oscillations in the active layer and underlying permafrost following disturbance of surface. Better drainage in roadways plus temperature effect results in greater depth of thaw, melting of ice inclusions, and differential settlement. Copy seen: DGS.

BREWER, MAX C., see also Robinson, F. M. Core tests and test wells, Oumalik...1956. No. 47619.

44131. BREWIN, E. G., and others. An investigation of problems of acid-base equilibrium in hypothermia. (London. Guy's hospital reports, 1955. v. 104, no. 3, p. 177–213, illus., tables.) 45 refs. Other authors: R. P. Gould, F. S. Nashat and E. Neil.

An extensive study on four main problems: (1) physico-chemical changes in vitro during equilibration of blood with various tensions of CO<sub>2</sub> at 37° and 26° C.; (2) changes of acid-base equilibrium in animals cooled to 26° C. and rewarmed; (3) similar conditions as in (2) but with thoracotomy and circulatory arrest, also observations on patients with intracardiac operations under hypothermia; (4) therapeutic and prophylactic meas-

ures to be used to prevent displacement of acid-base equilibrium during operative equilibrium. **Copy seen:** DNLM.

BRIDGES, J. H., see Starkman, E. S., and J. H. Bridges. Pumpability . . . lubricants at low temperatures. 1956. No. 48170.

**44132. BRIESEMEISTER, WILLIAM.** A new oblique equal-area projection. (Geographical review, Apr. 1953. v. 43,

no. 2, p. 260-61, text map.)

The projection with a bounding ellipse whose major axis is 1.75. The minor axis was constructed graphically from the Lambert Azimuthal Equal-Area. The projection is particularly advantageous in that it presents continuity in arctic and subarctic areas. The graphical method of construction and a brief mathematical description are given.

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44133. BRIGHT, E L I Z A B E T H
(PARKS). Alaska, treasure trove of tomorrow; the story of the discovery, exploration, settlement, geography, people
and towns, wildlife, industry and future
of America's frozen asset. [1st. ed.]
New York, Exposition Press, 1956. 203 p.

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44134. BRINGER, KARL-GÖRAN. Om fjällens fåglar och flora; vingar i vildmark. (Till Fjälls, Svenska fjällklubbens årsbok 1955, pub. Spring 1956. Årg. 27, p. 6–15, illus.) Text in Swedish. Title tr.: On the birds and flora of the mountains; wings in the wilderness.

Impressions from a summer 1955 walking-tour on Vakketjåkko (993 m.), a mountain on the north shore of Torneträsk, north Sweden. Birds (about 20 species mentioned) and plants (about 10) were studied, the mountain facing southwest and consisting partly of dolomite, offers favorable conditions for vegetation.

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BRITISH GLACIOLOGICAL SOCIETY, see Ward, W. H. Snow accumulation and ablation. 1956. No. 48859.

BRITISH NEWFOUNDLAND CORP. LTD., see Eckenfelder, G. V., and others. Hamilton River survey . . . 1956. No. 44720.

44135. BRÎÛSOV, ALEKSANDR ÎA-KOVLEVICH, 1885— . Arkheologicheskie dannye ob èkonomike doklassovogo obshchestva v neoliticheskuîu èpokhu; proizvoditeľnye sily i proizvodstvennye otnoshenia v épokhu neolita. (Sovetskafa arkheologifa, 1956. v. 25, p. 34-63.) Approx. 60 refs. Text in Russian. Title tr.: Archeological data on the economy of pre-class society of the neolithic era; production capacities and industrial connections in the neolithic period.

Discusses the cultural and economic achievements of the neolithic era in Europe and Asia Minor. The hunting and fishing tribes of the Russian far North are mentioned (p. 43–44) and the comparatively small size of their settlements opposed to the larger settlements of southern agricultural tribes.

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44136. BROCH, HJALMAR, 1882—, and P. FJELD. Bird-banding in Norway: banding by Oslo University 1940–52. Stavanger, Dreyer aksjeselskap, 1954. 37 p. 2 illus. (Stavanger museet. Sterna no. 15.)

Tabulated report of annual contribution and total number of each species banded (total 1135 birds) and recovered (394); followed by a list of recoveries. Some species were banded in Vesterålen archipelago, northern Norway; very few were recovered in Tromsø, and one in Tobol'sk, northern Siberia. Other reports are listed as No. 35282, 45583–45584.

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44137. BROCH, HJALMAR, 1882–. Nogen biogeografiske problemer. (Naturen, Oct. 1926. Årg. 50, nr. 10, p. 291–304.) Text in Norwegian. *Title tr.*: Some biogeographical problems.

Better understanding is needed in proper identification of species, bipolarity of certain species and its background, and variations in hydrobiology. Species are cited from several sections of the Arctic.

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44138. BROCHU, MICHEL. Canada. (Łodzkie towarzystwo naukowe. Biuletyn peryglacjalny, 1956. Nr. 4, p. 9–14) 38 refs. Text in French. One of the reports of the Commission of Periglacial Morphology, International Geographical Union.

Describes status of periglacial research in Canada and outlines the program and research problems to be dealt with in the future. Bibliography lists Canadian publications on glaciation, periglacial deposits, permafrost, frost action, vege-

tation in periglacial or formerly periglacial regions. Copy seen: CaMAI.

44139. BROCKAMP, BERNHARD, 1902— . Seismische Beobachtungen des grönländischen Inlandeises. (Physikalischer Verein, Frankfurt/Main. Meteorologisch-Geophysikalisches Institut. Berichte . . . zu Frankfurt a. M. und seines Taunus-Observatoriums, 1956. Nr. 6, p. 18–24, tables.) 11 refs. Text in German. Title tr.: Seismic investigations of the Greenland Inland Ice.

"The procedures and difficulties in making seismic measurements on the icecap are described; the application of seismic data to the study of various properties of glaciers are outlined; and the results obtained to date in Greenland and on Alpine glaciers are summarized. The temperature at a depth of 350 m. at Station Centrale Expéditions Polaires francaises on the icecap is determined from seismic velocity data as -26° to -30° C., indicating that the temperature gradient in the upper third of the 3000-m. ice must be very small, since the temperature measured at a depth of 15-20 m. was -28° C., and that the temperature at the bottom must be negative. Seismograms also point to the fact that only little melting takes place at the bottom."-SIPRE. Copy seen: CaMAI.

44140. BROD, JAN, and others. Changes of renal haemodynamics and functions in normal subjects and subjects with hypertension following a short cold stimulus. (Acta medica Scandinavica, 1956. v. 154, suppl. 312, p. 242–45, illus.) Other authors: V. Fenel, M. Gerová, Z. Hejl, J. Jirka, E. Kotanová, V. Prát, and F. Zajíc.

Report on an investigation of 48 hypertensive and 14 normal subjects having a leg immersed in ice water for one minute. In normal subjects, the renal vascular bed showed vasoconstriction of short duration followed by vasodilatation. Urine flow fell in all normal subjects, irrespective of changes in renal hemodynamics.

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44141. BRODSKIĬ, KONSTANTIN ABRAMOVICH, and M. M. NIKITIN. Hydrobiological work. Washington, D. C., 1956. 32 p. tables. (In: Somov, M. M. Observational data . . . drifting station 1950–1951, pt. 4; translated by David Kraus.) Tables of appendix 4 are paged: 422–65 from original Russian edition.

A study of the phyto- and zooplankton, and of the benthos, carried out by drifting station North-Pole-2 over an irregular course within an area extending from approx. 76° to 81°45' N. and 189°-202° E. It is the first investigation of a limited area in the Arctic Basin conducted, except for the phytoplankton, the whole year round (Apr. 2, 1950-Apr. 11, 1951), the phytoplankton being studied from April to October only. Plankton hauls were vertical: those for phytoplankton down to 100 m., those for zooplankton to the bottom. Samples were analyzed qualitatively and roughly as to quantity. In addition to the benthos, liquid silt was collected in order to determine the characteristics of sea bottom in its natural state. Results are presented in tabular form with notes on location, frequency, stage or sex, geographic distribution, ecology, etc. Appendix 1 thus lists protozoans, sponges, coelenterates and fishes; appendix 2 and 3 present the zooand phytoplankton composition according to stations; appendix 4 the results of dredgings. Copy seen: CaMAI.

44142. BRODSKIĬ, KONSTANTIN ABRAMOVICH. Zhizn' v tolshche vodý Políarnogo basseľna. (Priroda, May 1956, no. 5, p. 41–48, 6 illus.) Text in Russian. *Title tr.*: Deep-sea life in the Arctic Basin.

Based chiefly on results of observations on the drifting stations North Pole 1-4 (cf. schematic map 1). Calanid fauna of central basin is singled out as a typical deep-sea planktonic group. Its content, special characteristics, horizontal and vertical distribution and seasonal fluctuation are discussed; comparisons are made with faunas of Bering, Chukchi, and other arctic seas.

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44143. BRODSKIĬ, KONSTANTIN ABRAMOVICH. Zonal'noe raspredelenie (po shirotam) Calanoida v severnol chasti Tikhogo Okeana i sopredel'nykh vodakh. (Akademiña nauk SSSR. Doklady, Feb. 21, 1956. v. 106, no. 6, p. 1103–1106, 2 diagrs.) 9 refs. Text in Russian. *Title tr.:* Zonal distribution (by latitude) of Calanoida in the northern part of the Pacific Ocean and adjacent waters.

Relationship between the water temperature and calanoid species content is discussed. Richest in this respect is the tropical zone, and poorest, the arctic. Chukchi Sea fauna is a mixture of North Pacific and arctic faunas, an intermediate zone between the temperate and arctic

ones. The largest number of individual calanoids, however, is not in the tropical but in the northern section of the temperate zone (northern Bering Sea). This study is based on materials collected by expeditions of the State Hydrological Institute and Institute of Fishery and Oceanography in 1932–33, and by the "battleship" Severnyt politis 1946, and the research vessel Vitiaz', 1949–50.

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BRODSKIĬ, S., see Popkov, fŪ. Tvoreniâ severnykh drevodelov. 1956. No. 47406.

44144. BRODSKY, WILLIAM AARON, 1918—, and others. The freezing point depression of mammalian tissues in relation to the question of osmotic activity of cell fluid. (Journal of general physiology, Nov. 1956. v. 40, no. 2, p. 183—99, illus., tables.) 46 refs. Other authors: J. W. Appelboom, W. H. Dennis, W. S. Rehm, J. F. Miley and I. Diamond.

A study of cryoscopic behavior of dog tissue homogenates prepared in different ways. The freezing point depression of such frozen tissue, pulverized in a hydraulic press or in a mortar was greater than that of plasma, and increased with time even at 0° C. The limitations of these and of tissue swelling experiments are discussed.

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44145. BRODTHAGEN, H., and J. V. CHRISTIANSEN. Polymorphic light eruptions; relation to ultraviolet light intensity and hours of sunshine. (British journal of dermatology, 1956. v. 68, no. 7, p. 261–63, illus.) 4 refs.

Account of investigation aimed to ascertain whether a correlation could be found between light intensity and eruptions: 58 patients (42 women and 16 men) studied concurrently with the weekly hours of sunshine and ultraviolet radiation. New eruptions and aggravations followed the periods when increase in light intensity was greatest. The increase of the intraviolet component of the light seems to be most important.

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BRODY, SAMUEL, 1890-, see Dale, H. E., and others. Effect of environmental temperature . . blood and serum . . body water . . 1956. No. 44530.

BROMAN, E., see Allison, A. C., and others. The blood groups . . . Swedish Lapps. 1956. No. 43595.

44146. BROMBERG, ERIK. A bibliography of theses and dissertations concerning the Pacific Northwest and Alaska. (Pacific Northwest quarterly, July 1949. v. 40, no. 3, p. 203–252; and Supplement, Apr. 1951. v. 42, no. 2, p. 147–66.)

Lists approx. 1320 M. A. and Ph. D. theses in the social sciences, grouped by subject: history, economics, sociology, anthropology, etc., with indication of where a copy is available. Topical index is appended.

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BRONSHTEIN, A. I., see Obruchev, S. V. Spravochnik puteshestvennika . . . 1949-50. No. 47123.

BROOKE, F. R., see Hamilton, R. A., and others. British North Greenland Expedition, 1952–4 . . . results. 1956. No. 45412.

BROOKS, ALFRED HULSE, 1871–1924, see U. S. Alaska Railroad Commission. Railway routes in Alaska . . . 1913. No. 48534.

44147. BROOKS, CHANDLER Mc-CUSKEY, 1905— . Hypothermia and the nervous system. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 260–63, illus.) 5 refs.

A discussion (following paper by J. D. McQueen, q.v.) of the different susceptibilities of various types of nerve fibers to cold block; initial and later effects during progressive cooling of nerves; the "purity" of reflexes during hypothermia; tetanus due to cooling; etc.

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44148. BROOKS, CHANDLER Mc-CUSKEY, 1905— . Hypothermia and the physiology of cardiac excitability. (*In:* National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, *pub.* 1956. p. 287–301, illus.) 50 refs.

A study of fundamentals of cardiac excitability and contractile responses with information on excitation as it operates in a cell; hypothermia and its effect on heart rate, pacemaker action, and propagation of excitation; effect of lowered body temperature on cardiac excitability; cardiac arrythmias and fibrilation; effect of hypothermia on heart contraction.

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BROOKS, CHANDLER McCUSKEY, 1905—, see Suda, I., and others. Effects of cooling . . . central nervous . . . responses. 1956. No. 48244.

BROOKS, DONALD BANE, 1899–, see Howard, F. L., and others. Automotive antifreezes. 1956. No. 45624.

BROOKSHIRE, W. H., see U. S. Naval Civil Engineering Research & Evaluation Lab, Snow-removal operations... 1953-54. 1954. No. 48629.

44149. BROUILLETTE, BENOÎT, 1904 - La chasse au phoque. (Revue Canadienne de géographie, Jan.-Mar. 1956. v. 10, no. 1, p. 69.) Text in French. *Title tr.:* The seal hunt.

Notes hunt in the Gulf of St. Lawrence during Mar. 1956 when 20,000 seals were taken: migration of seals from the Arctic, method of killing, prices, use of the skin and layer of fat.

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44150. BROUILLETTE, BENOÎT, 1904— . Les conséquences des grands travaux soviétiques sur le climat canadien. (Revue Canadienne de géographie, Jan.—Mar. 1956. v. 10, no. 1, p. 68.) Text in French. Title tr.: Consequences of large Soviet projects on the Canadian climate.

Notes proposals to dam the mouths of the Ob' and Yenisey Rivers and reverse their flow, to close Bering Strait by a 53-mi. dam and pump the warmer waters of the Japanese Current into the Arctic Basin, and to erect an atomic plant in Franz Josef Land to warm the water and hold back the pack ice. Hypothetical effects on the Labrador Current and climate of the Canadian Eastern Arctic, and on the Greenland Icecap and world sea levels are discussed.

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44151. BROUILLETTE, BENOÎT, 1904 - La production du minerai de fer au Canada. (Revue Canadienne de géographie, Jan.-Mar. 1956. v. 10, no. 1, p. 69.) Text in French. *Title tr.:* The production of iron ore in Canada.

Total Canadian production in 1955 reached 17.4 million tons, double that of 1954, due primarily to exploitation of the northern Quebec-Labrador Knob Lake deposits. The Iron Ore Co. of Canada expects 12 million tons from this region in 1956 and 20 million annually thereafter. Other deposits may soon be mined on the shores of Ungava Bay, at Lake Wabush

(near Knob Lake), and on the Belcher Islands in Hudson Bay.

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44152. BROUILLETTE BENOÎT, 1904— Le voyage du Gouverneur-Général du Canada dans l'arctique. (Revue Canadienne de géographie, Apr.—Sept. 1956. v. 10, no. 2–3, p. 148–50.) Text in French. *Title tr.:* The trip of the Governor-General of Canada in the Arctie.

Brief account of the 10,000-mile airplane trip by Rt. Hon. Vincent Massey, Mar. 20-Apr. 5, 1956. The route from Ottawa was via Great Whale (Northern Quebec)—Frobisher Bay (Baffin Island) to Resolute Bay (Cornwallis Island); a flight over the North Pole and return to Resolute, thence to Cambridge Bay (Victoria Island) — Tuktoyaktuk, Aklavik, Norman Wells (Mackenzie District)—Whitehorse (Yukon), and return via The Pas (Manitoba) to Ottawa.

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44153. BROWN, DAVID H., and K. S. NORRIS. Observations of captive and wild cetaceans. (Journal of mammalogy, Aug. 1956. v. 37, no. 3, p. 311–26, illus., tables.) 14 refs.

Account of observations in the field and in an oceanarium of five species of Pacific and one Atlantic dolphins and whales; included in the observations are: seasonal migrations, food and feeding, size, schooling, mating behavior and young, play, occurrence, etc.

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44154. BROWN, DUGALD E. S. Some considerations of physicochemical factors in hypothermia. (*In:* National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, *pub*, 1956. p. 1–7.) 12 refs.

Contains a discussion of low temperature effect on the cellular level; the value of the temperature coefficient in various processes, in hibernators and non-hibernators; low temperature reactions and the Arrhenius equation; types of temperature-bound, cellular processes; cardiac contractility and temperature; treppe.

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BROWN, E. A., see Thunaes, A., and others. Development . . . Port Radium leaching process . . . 1955. No. 48391.

BROWN, Mrs. EMILY IVANOFF, see Tickasook. Inupiut . . . homes. 1956. No. 48393.

44155. BROWN, R. J. E. Permafrost investigations in the Mackenzie delta. (Canadian geographer, 1956, no. 7, p. 21–26, text map.) Ref.

Contains description of soils investigation in 1953 at Aklavik (68°18′ N. 135° W.) and of the investigation of several areas on both sides of the delta in 1954 as part of the Aklavik relocation survey. Drilling and sampling methods are described; also soil and permafrost conditions at several of the sites.

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BROWN, R. J. E., see also Legget, R. F., and R. J. E. Brown. Rapid disintegration of alluvial-fan . . . Aklavik . . . 1956. No. 46296.

BROWN, R. J. E., sèe also Pihlainen, J. A., and others. Pingo in the Mackenzie delta...1956. No. 47352.

BROWN, R. J. E., see also Pihlainen, J. A., and others. Soils . . . Mackenzie River delta . . . 1956. No. 47353.

44156. BROWN, ROBERT. Testing of rubber at low temperatures; a description of a new sub-arctic testing apparatus and its application to five separate and distinct valid tests. (Rubber age, Nov. 1955. v. 78, no. 2, p. 245-47, illus., diagrs.)

Contains description of a special cold chamber manufactured by Tenney Engineering, Inc., designed to test rubber samples at temperatures down to -95°.

F. Test procedures described include the bend loop, compression set freeze, Jolly balance stiffness, cellular rubber compression-deflection, and Young's modulus. These tests provide essential information about the characteristics of elastomers under low temperature conditions.

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44157. BROWN, THEODORE G., Jr., and M. de V. COTTEN. Evaluation of factors enhancing cardiac force during hypothermia. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 405.)

Account of investigation of factors other than hypothermia per se responsible for increment in heart force during lowered body temperature. Increase in circulating catechol amines, sympathetic block and large increase in respiratory

tidal volume enhanced cardiac force among several other means tried.

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44158. BROWN, THEODORE G., Jr. Hypothermia, a review of the cardiovascular effects of hypothermia. (South Carolina Medical Association. Journal, 1956. v. 52, no. 10, 11, p. 365–73, 390–98.) About 180 refs.

Contains an historical outline of induced hypothermia and its application in medicine, followed by sections on physiological effects of this condition, methods of cooling, especially drug induced hypothermia, cardiovascular effects of hypothermia (physiology, chemistry and pathology), etc.

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44159. BROWN, WILLIAM LOUIS, 1922- . The ant Leptothorax muscorum (Nylander) in North America. (Entomological news, Feb. 1955. v. 66, no. 2, p. 43-50.) 7 refs.

Contains synonymy and data on distribution of this holarctic boreo-alpine ant, recorded from Umiat in northern Alaska, Reindeer Depot in the Mackenzie delta (68°43′ N. 134°06′ W.), and at Kidluit Bay on Richards Island (69°32′ N. 133°47′ W.). Notes on the ecology are added of this species, which occur farther north than any other North American formicid.

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44160. BROWN, WILLIAMSON JAMES, 1902—. The New World species of Chrysomela L.; Coleoptera: Chrysomelidae. Ottawa, 1956. 54 p. 40 illus. (Canadian entomologist, v. 88. Suppl. 3.) 62 refs. Issued also as: Contrib. No. 3390, Entomology Div., Sci. Service, Dept. of Agriculture, Ottawa, Canada.

Contains a taxonomic treatment of the holarctic genus Chrysomela, with discussion of food plants, life history, variation, isolation and hybridization, taxonomy and nomenclature. A taxonomic summary and a key are followed by descriptions of 19 species and subspecies, of which ten are new. The summary gives food plants, distribution, closely allied species, also notes on characterization (siblings) and variability of color in adults. At least eight species are recorded as occurring in central and southern Alaska and northern Canada.

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44161. BROWNE, BELMORE, 1880-1954. The conquest of Mt. McKinley. Illustrations by Belmore Browne and Bradford Washburn. Boston, Houghton Mifflin, 1956. xxx, 381 p. 42 illus., map on endpapers.

New edition of No. 2340, with a foreword by Vilhjalmur Stefansson and an introduction by Bradford Washburn giving a brief biography of Browne. Illus. are black and white photographs; author's drawings in the first edition are omitted. \*Copy seen: DGS.

44162. BROWNHILL, H. E. The ill-fated Hornby Expedition. (Royal Canadian Mounted Police quarterly, Jan. 1956. v. 21, no. 3, p. 181–88, illus.)

Contains popular account of the search for John Hornby, Edgar Christian, and Harold Adlard, who left Resolution, Great Slave Lake, in June 1926 intending to winter in the Barren Grounds. The men were found dead from starvation in Aug. 1928 in a cabin on the Thelon River about 60 mi. below the junction of the Thelon and Hanbury. The journey made by a four-man R. C. M. P. patrol in July 1929 to bury the bodies is recounted, and excerpts given from Edgar Christian's diary from autumn 1926 to his death in June 1927.

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**44163. BROWNING, J. C.** Quebec annual review, 1955. (Canadian mining journal, Feb. 1955. v. 77, no. 2, p. 98–100, 125, text map.)

Includes information on iron mining and exploration in northern Quebec. About \$60,000,000 worth of iron ore (7,721,694 tons) was shipped from the Knob Lake region in 1955, the first full year of production. Ore mined totalled 8,522,024 tons. Shipments for 1956 are estimated at 12,000,000 tons. Exploration by eight companies is continuing in the Labrador Trough and north to Hudson Strait.

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44164. BRUCK, ADOLF, and others. Tierexperimentelle Untersuchungen über die Regulation der Atmung bei pharmakologisch unterstützter Hypothermie bis 20° Kerntemperatur. (Zeitschrift für gesamte experimentelle Medizin, 1956. Bd. 127, Heft 6, p. 597-604, illus., Text in German. tables.) 16 refs. Other authors: B. Löhr and W. Ulmer. Title tr.: Experimental investigations on respiration regulation of animals in pharmacologically supported hypothermia down to 20° core temperature.

Study of dogs made hypothermic in ice water and subsequently with "lytic cocktail." At lower temperatures, CO<sub>2</sub>

ceased to act as respiratory regulator and the O<sub>2</sub>-partial pressure largely acted as such. The role of a slight acidosis under these conditions, is discussed.

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44165. BRUCKMAYER, F. Bautechnik und meteorologische Werte. (Wetter und Leben, Jan. 7, 1955. Jahrg. 7, Heft 8–11, p. 186–93, illus., diagrs., plate.) Text in German. *Title tr.:* Building technique and meteorological values.

Contains discussion of the interdependence of building technology and meteorology. The effects and influence of meteorological elements, especially cold weather, on the design, materials, and construction operations are described.

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44166. BRUEVICH, N. I. Plan izdatel'stva geodezicheskoĭ literatury na 19561960 gg. (Geodeziñ i kartografiñ, Nov.
1956, no. 9, p. 74-78.) Text in Russian.
Title tr.: Plan for publication of geodesic literature during 1956-1960.

Geodetic publishing of 1951–55 is surveyed, and that of the sixth five-year plan outlined. Centralization of publishing activities in Izdatel'stvo geodezicheskof i kartograficheskof literatury (Geodezizdat), i. e. Publishing Office of Geodetic and Cartographic Literature, is said to have had beneficial results. Plans for publishing several works on aerial mapping are mentioned.

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44167. BRUEVICH, S. V. K khimii osadkov Okhotskogo moria. (Akademia nauk SSSR. Institut okeanologii. Trudy, 1956. t. 17, p. 41–132, illus., tables, maps.) 56 refs. Text in Russian. *Title tr.:* On the chemistry of sediments in the Okhotsk Sea.

A comprehensive and exhaustive study based largely on the author's own investigations on the 1949 and 1950 trips of the research vessel Vitiaz'. A general introduction with outline of the problem, list of stations, etc., is followed, as pt. 2 (p. 44-80), by treatment of the physical properties of the sediments, viz. mechanical composition, water content, porosity, wet and dry weight, etc. Pt. 3 (p. 80-92) deals with the physico-chemical characteristics of the sediments: pH, and its distribution with depth, oxydative potential, etc. Pt. 4 (p. 92-102) concerns the chemical nature of the solid phase of the deposits (P, Fe, Mg; total N, organic C). The chemical composition of bottom water: chlorinity, alkalinity, N, P, Si is dealt with (p. 102-131). Each of the sections has its own summary and a general summary concludes the study.

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44168. BRUEVICH, S. V. Khimicheskie issledovania Instituta okeanologii AN SSSR na dal'nevostochnykh morakh i v prilegafüshchel chasti Tikhogo okeana. (Akademia nauk SSSR. Institut okeanologii. Trudy 1956. t. 17, p. 18–40, illus., tables, map.) 13 refs. Text in Russian. Title tr.: Chemical investigations of the Oceanology Institute, Academy of Sciences, U. S. S. R., in the Far Eastern seas and in the contiguous areas of the Pacific.

A comprehensive review of the chemical oceanography of the area, including the Bering and Okhotsk Seas and Kuril-Kamchatka Trench region, based largely on the trips of the R/V Vitiaz' during 1949-1955. Chemistry of both the water and bottom sediments are considered. The expeditionary trips are recounted and a general outline of the turnover ("regimen") of O2, nitrites, nitrates and other N-compounds, of Si- and Pcompounds, pH, etc., is presented. The results of physical and chemical analyses of bottom deposits to a depth of 400 cm. are also described and discussed. A concluding chapter deals with the still outstanding problems of research in the area. Copy seen: DLC.

BRUEVICH, S. V., see also Leningrad. Arkticheskiĭ nauchno-issledovatel'skiĭ institut. Instrukſŝiñ . . . khimicheskikh issledovaniĭ morskoĭ vody. 1944. No. 46308.

44169. BRUN, ESKE, 1904 . Nekrolog: Hugo Holten Møller, R. 19. april 1900 – 21. marts 1956. (Grønland, Apr. 1956, nr. 4, p. 160, port.) Text in Danish. *Title tr.*: Obituary: Hugo Holten Møller, R. Apr. 19, 1900 – March 21, 1956.

Møller went to Greenland in 1925, a pioneer radio operator. He served in the supply organization for Greenland, established in New York during the war; in 1946 joined the Greenland administration in Copenhagen in charge of the radio service, later of all electrification work in Greenland.

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**44170. BRUN, ESKE, 1904** - Nekrolog: Jørgen Niels Peter Chemnitz, DM., R., FM. 13 februar 1890–19. april 1956. (Grønland, May 1956, nr. 5, p.

200, port.) Text in Danish. *Title tr.:* Obituary: Jørgen Niels Peter Chemnitz, DM., R., FM. 13 February 1890-

19 April 1956.

The Greenlander J. N. P. Chemnitz, was for many years an assistant and interpreter to the Danish administrators in Greenland, and both he and his wife were elected members of the Greenland commission of 1948. *Copy seen:* DLC.

BRUN, ESKE, 1904-, see also Denmark. Undenrigsministeriet. Greenland. 1956. No. 44601.

44171. BRUNDAGE, ARTHUR L., and W. J. SWEETMAN. Feeding value for milk production of smooth bromegrass. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 127–29,

table.)

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Account of feeding studies covering four years (1949–1953) and aimed to determine the effects of various harvesting and preserving methods. Digestibility studies and nutritive characteristics of the 1952 forage are also discussed. Silage and hay were found to represent the best in feed. 

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44172. BRUNDIN, LARS ZAKARIAS, 1907– . Fjärilar: Lepidoptera. (In: Sjöstedt, Y. Insektfaunan inom Abisko nationalpark, I, pub. in Svenska vetenskapsakademien. Skrifter i naturskyddsärenden, 1931, nr. 16, p. 37–64.) Text in Swedish. Title tr.: Butterflies and moths: Lepidoptera.

Lists approx. 200 species in 28 families collected mostly in the lowlands of Abisko National Park but observed to approx. 1600 m. For each lepidopter, vegetation about which adults were found and on which larvae fed is noted with dates of observation, references to other arctic localities, etc.

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44173. BRUNDIN, LARS ZAKARIAS, 1907—. Skalbaggar: Coleoptera. (In: Sjöstedt, Y. Insektfaunan inom Abisko nationalpark, I, pub. in Svenska vetenskapsakademien. Skrifter i naturskyddärenden, 1931, nr. 16, p. 8–36.) Text in Swedish. Title tr.: Beetles: Coleoptera.

Lists approx. 400 species in 41 families, collected in Abisko National Park, with note of habitat or distribution. The habitats range from near the Torneträsk lake level of 345 m. to near the snowfields, 1000 m. or over. Copy seen: DLC.

44174. BRUUN, SVEND FOYN, 1883- . Hvalfangerselskapet "Pelagos" a/s, 1928-30 Juni-1953; et tilbakeblikk. [Tønsberg] Tønsbergs aktietrykkeri, 1953. 32 p., tables. Text in Norwegian. Title tr.: The whaling company "Pelagos" Ltd. June 30, 1928-1953; a retrospect.

Contains biographical information on the author and details about the company, its organization, management, etc. Its whaling activities are recounted: itineraries and areas exploited, yields in oil, prices, income, profits, etc. The account is documented by excerpts from the log, list of losses at sea, and biographies of prominent members. An economic analysis is added, giving reasons for the company's dissolution. Copy seen: DLC.

BRYN, ZACHARIAS, see Johnsen, O. Meteorologi og oseanografi for sjøfolk . . . . 1953. No. 45806.

44175. BUBNOFF, SERGE von. 1888- . Neue geologische Forschungen im Ural in ihrer grundsätzlichen Bedeutung. Berlin, Akademie-Verlag, 18 p., 2 diagrs., 6 text maps, 9 refs. (Deutsche Akademie der Wissenschaften zu Berlin. Klasse für Mathematik und allgemeine Naturwissenschaften. handlungen, Jahrg. 1951, Nr. 3.) in German. Title tr.: New geologic research in the Urals with regard to their systematic significance.

The Urals geosyncline, which has been considered to have developed in Devonian time, is here referred back to younger Precambrian time, when weathering products from the Fennosarmatian block were being deposited in the Urals location. Relationships of the Siberian and Fennosarmatian blocks to the Urals district are discussed. A map of eastern Europe (p. 8), distinguishes the zones of depression and uplift, shield, nappes, and basins in the European zone. A Eurasian diagram (p. 17) shows the relationships of both the Fennosarmatian and Angaran blocks to the Urals-Yenisey region between them. Mineral group occurrences are generally related to tectonics and intrusions.

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44176. BUCHER, EDWIN. Contribution to the theoretical foundations of avalanche defense construction; Beitrag zu den theoretischen Grundlagen des Lawinenverbaus. Wilmette, Ill., U. S. Army, Corps of Engineers, Snow Ice and Permafrost Reasearch Establishment, Feb. 1956. viii, 109 p. illus., diagrs., 10 fold. profiles. (Its: Translation 18.) 236 refs. Trans.

by Jan C. Van Tienhoven.

Contains detailed analysis of snow, including deformation in terms of snow structure, temperature and stress. The development of the snow cover of ten consecutive winters is graphed, and its statics and dynamics are described. Avalanche defense construction is described in terms of the tensile and shear stresses, the function of different types of constructions, and the estimation of the snow pressure acting on lattice structures.

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44177. BUCK, W. KEITH. A survey of the iron ore industry in Canada during 1955, with special emphasis on production, development and exploration. Ottawa, Mar. 1956. 48 p. text map, graph, tables. (Canada. Dept. of Mines and Technical Surveys. Mines Branch. Mineral resources information circular, M. R. 17.) Ref.

Includes description of production and development by the Iron Ore Company of Canada in the Knob Lake region, northern Quebec-Labrador, and construction in the new town of Schefferville near Knob Lake; exploration in the Knob Lake-Wabush Lake-Mt. Wright areas at the southern end of the Labrador Trough, is reviewed, also that immediately west of Ungava Bay at the northern end of the Trough, and that on the Belcher Islands in Hudson Bay.

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44178. BUDDING, ANTONIUS JACOB, 1922— . Geology and petrology of the northeastern Artfjäll. Swedish Lapland. Academisch Proefschrift, Universiteit van Amsterdam. Assen, Van Gorcum & Comp. N. V., [1951] 98 p. 31 illus., 2 maps, 3 tables (Amsterdam. Geologische Instituut. Mededeling no. 176.) 27 refs. Text in English. Summary in Dutch.

This region, approx. 65°54′-66°02′ N. and 14°46′-15°21′ E. in the headwater area of the Ume River south and west of Lake Overuman, has many peaks above 1000 m. in elevation, the highest 1444 m. The lower elevations below 540 m., at which glacial lake terraces are described, have tree and swamp vegetation. On the uplands, barren glacial drift and bedrock are conspicuous. The geologic series, petrology, and structure are treated in detail. The rocks are mainly metamorphosed sediments of the Caledonian geo-

syncline, along with volcanics dating to the major period of tectonic activity.

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44179. BUDDING, ANTONIUS JACOB, 1922—, and S. J. T. KIRKLAND. The geology of the Reindeer River area. Regina, Sask., Queen's Printer, 1956. 44 p. 10 illus., fold. map. (Saskatchewan Dept. of Mineral Resources. Geology Branch. Report no. 22.) 4 refs.

The map sheet covers the area 55°30'-45' N. 103°00'-30' W. and includes part of the basins of the Reindeer and Churchill Rivers, northeast Saskatchewan. The area is one of low relief. Bedrock is all of Precambrian age and is partially covered by unconsolidated Pleistocene and Recent deposits. Oldest rocks recognized are predominantly sedimentary strata and their metamorphic equivalents. Two groups of migmatic rocks represent gradational phases between the metasediments and the younger granitic rocks which, with meta-gabbros, intrude the older sediments. Lamprophyre dikes, intruding both meta-sediments and intrusives, are the youngest rocks of the area. Folding is complex, but the general trend of both folds and faults is north-northeast. No mineral deposits of economic importance are known.

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BUDDRUSS, GEORG., see Friedrich, A., and G. Buddruss. Schamanengeschichten . . . 1955. No. 44978.

44180. BUDKEVICH, EVGENIĀ VI-KENT'EVNA, 1888— . Anatomicheskoe stroenie drevesiny vidov Larix v svíāzi s ikh sistematikol. (Botanicheskii zhurnal, Jan. 1956. t. 41, no. 1, p. 64–80, 7 illus., 2 tables.) 34 refs. Text in Russian. Title tr.: Anatomical structure of the wood of Larix species in relation to their systematics.

Taxonomy and anatomy of the larch are discussed; morphological and anatomical data are given for 11 species, and their anatomical characteristics are tabulated. These characteristics, however, cannot always serve as a basis for determination of species. L.kurilensis from the Kuril Islands and Kamchatka, also L. sibirica occurring in Bol'shezemel'skaya Tundra and the Turukhansk region (69° N.), are included. Copy seen: DLC.

44181. BUDNIKOV, P., and G. BLOKH. Kosvennafa otsenka morozostoľkosti stroiteľnykh materialov. (Stroiteľnye materialy, Mar. 1956. t. 2, no. 3, p. 32-34, table, graphs.) Text in Russian. *Title* tr.: Indirect evaluation of the frost re-

sistivity of building materials.

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The study of frost resistivity of ceramic materials is outlined. The coefficient of frost resistivity (Kn) is defined, as a ratio of water absorbtion at room temperature to absorption after boiling under vacuum or pressure. The results of different procedures in determination of Kn are analyzed and its critical value is related to the moisture-migrating property of the material; therefore the critical value of Kn must be determined experimentally for each material under strictly specified conditions.

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**44182. BUECHLEY, ROBERT W.** First aid for social accidents. (*In:* Alaskan Science Conference . . . 1952. Proceed-

ings, pub. 1954, p. 35-37.)

Reviews categories of people subject to Federal and Territorial public welfare aid: the aged, dependent children, the blind, disabled; also child welfare, general relief, juvenile code, etc. Information on the people, local resources, and cultures required in estimating need is discussed. Preventive measures are called for rather than aid for need. Copy seen: DGS.

44183. BUEHLER, EDWARD J. The morphology and taxonomy of the Halysitidae. New Haven, Conn., 1955. 79 p. 12 plates, diagrs. (Yale University. Peabody Museum of Natural History.

Bulletin 8.) 64 refs.

Contains description of 70 species (three new) of the "chain corals," including 14 from arctic Canada and U. S. S. R. Two genera, Halysites and Catenipora, are recognized, ranging from Middle Ordovician to Late Silurian. Original descriptions and locality data of the species are given; also brief discussion of geographical distribution. A few records are added in "Notes on Halysitid corals," by G. Winston Sinclair and Thomas E. Boiton, Journal of paleonlology, Jan. 1956, v. 30, no. 1, p. 203–206.

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44184. BUEN, HELGE. Sphagnum subfulvum ny for Sør-Norge. (Blyttia, 1947. bd. 5, hefte 2-3, p. 72-75, illus.) Ref. Text in Norwegian. Summary in English. Title tr.: Sphagnum subfulvum new to South Norway.

Records find of this rare moss in a small bog in Nordmarka, about 15 km. north of Oslo; it had been previously reported from a single locality in Nordreisa in Troms (69°30′ N.).

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44185. BUGROVA, I. "Sprava po bortu, kit." (Smena, July 1956. god 33, no. 13, p. 11–12, illus., col. plate.) Text in Russian. *Title tr.:* "A whale starboard."

Sketches activities of the whaler Uragan in the North Pacific. Copy seen: DLC.

44186. BUĀNOVSKIĪ, M. S. O nekotorykh voprosakh ėkonomicheskoĭ geografii v svete resheniĭ vtorogo s''ezda Geograficheskogo obshchestva SSSR. (Akademiña nauk SSSR. Izvestiña, seriña geograficheskaña, Jan.-Feb. 1956, no. 1, p. 110-14.) 12 refs. Text in Russian. Title tr.: Some problems of economic geography in the light of decisions of the second Conference of the Geographical Society of the U. S. S. R.

Contains discussion of locating industry according to the geographical distribution of the natural resources; participation of expert economic geographers in industrial planning is urged; and materials to be assembled and studied, are outlined. Need for study of arctic and subarctic regions (Yakutia, etc.) is mentioned.

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44187. BUILDING RESEARCH IN CANADA. New permafrost research station opened. (Building research in Canada, June 1956. v. 2, no. 3, p. 94–95.)

Notes dedication of Northern Research Station for Permafrost Research at Norman Wells, Mackenzie Dist., summer 1955 (?), during visit of a 30-man group National Research Council of Canada. Group also visited Yellowknife. Tuktoyaktuk, Aklavik, Fort Simpson, and Whitehorse. The wooden residence and laboratory buildings of the Station can be moved, if necessary, to new site of Since 1952, staff have been Aklavik. studying permafrost at old and new sites of Aklavik primarily; other projects are Copy seen: DLC. noted.

44188. BUKHANOVSKIĬ, IGOR' LAV-RENT'EVICH. Plavanie v stesnennykh vodakh s pomoshch'ſū sudovogo radiolokatora. Moskva, Izd-vo "Morskoĭ transport," 1956. 136 p. tables, illus., diagr. (U. S. S. R. Ministerstvo morskogo flota. TSentral'nyĭ nauchno-issledovatel'skiĭ institut ėkonomiki i ėkspluataſsii vodnogo transporta, Trudy, vyp. 9.) 20

refs. Text in Russian. Title tr.: Navigation in congested waters by ship's radar.

Describes theory of radio wave propagation and reflection from surfaces of various projecting objects: shores, vessels, buoys, including (p. 31-34) floating ice, ice fields, icebergs, etc. Types of radar of different countries and their technical characteristics are tabulated. Method of observation and control of clearness of image are described with examples. Navigation through narrows and congested waters (harbor, rivers, canals, etc.) is outlined with illustrations.

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44189. BUKOVSKAÑA, Z. I. Peredovaña kolkhoznaña zveroferma Mautskoi ASSR. (Karakulevodstvo i zverovodstvo, Jan.—Feb. 1956. god 9, no. 1, p. 40–42, illus., tables.) Text in Russian. Title tr.: The leading kolkhoz fur farm of the Yakut A. S. S. R.

Silver fox farming of the area is sketched with data for 1952-55 (in percent), and particularly that of the kolkhoz Shvernik in Ordzhonikidze District. Its beginnings, location, I. N. Solov'ev its chief stock breeder, animal stock, production, fertility of animals, nutrition, income, kinds of pelts produced, etc., are described.

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44190. BULANZHE, TU. D. Mezhdunarodnyi geofizicheskii god. (Akademia nauk SSSR. Vestnik, Jan. 1956. god 26, no. 1, p. 3-8, fold. map.) Text in Russian. Title tr.: The International Geophysical Year.

Discusses plans of scientific work in the coming IGY, including hydro-meteorological, gravimetric and seismic observations in the Arctic. Participation of the Soviet scientific institutions and of Soviet polar stations is stressed. A special interdepartmental committee has been set up for preparation and carrying out of the IGY program; it is headed by Academician I. P. Bardin. Folded map of U. S. S. R. includes the Soviet sector in the Arctic Basin and shows location of main Soviet polar stations, two of them in the Basin.

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44191. BULATOV, S. N. O nekotorykh sluchaſakh prognoza vskrytiſa rek. (Meteorologiſa i gidrologiſa, Mar.—Apr. 1955. no. 2, p. 33–35, graph.) Ref. Text in Russian. *Title tr.*: Some conditions involved in river opening forecasts.

Conditions that effect the floodless

opening of rivers in spring are analyzed and methods of forecasting the phenomenon are discussed. Spring opening occurs before the flood in the lower stretches of the rivers and results in local influx of heat and melting of the ice cover. The speed of ice destruction depends on the weather and winter conditions. Methods of forecasting river opening which take into account only air temperatures below the freezing point in winter are inaccurate because they neglect the warming effect of groundwater run-off. Graphed data for the Tym' River in Sakhalin show the improved results obtained by considering the influence of ground water. method of analysis may also be applied for forecasting river openings in the Arctic .-From SIPRE. Copy seen: DLC.

BULGAKOVA, Z. P., see Veselkin, N. V., and others. O vliianii sveta . . . 1934. No. 48729.

BULGAKOVA, Z. P., see Veselkin, N. V., and others. Vlifanie sveta no sintez vitamina C. . . . 1934. No. 48730.

44192. BULIARD, ROGER, 1914–1956. My Eskimos: a priest in the Arctic. Based on Father Buliard's book, Inuk, and adapted for young readers by Milton Lomask. Illustrated by Leonard Everett Fisher. New York, Vision Books [1956]. 186 p. illus. (Vision books, 14.) Adaptation of No. 21019 and 21020 of

44193. BULL, COLIN. The use of the Rammsonde as an instrument for determining the density of firn. (Journal of glaciology, Oct. 1956. v. 2, no. 20, p. 714-18, table.) 2 refs.

Arctic Bibliography. Copy seen: DLC.

Based on work of the British North Greenland Expedition during winter 1953-1954: the method was used during a 1200-km. gravity survey across the northern part of the ice sheet, and experimental results were obtained at the icecap station Northice (78°04' N. 38°29' W.). A direct relationship was found between the firn density and penetration resistance measured with the Rammsonde in the cold firn. The instrument is described. The statistical method for obtaining the relationship is briefly outlined, and various correction factors are considered. The standard error of estimate of density from resistance is less than 0.04 for all densities from 0.3-0.57 and less than 0.02 for 0.42-0.57. Corrections may be applied to allow for frictional resistance between the walls of the hole and the Rammsonde where the mean density is less than 0.47, permitting density estimates to a depth of 3 m. Density estimates at depths greater than 1 m. are inaccurate with a density greater than 0.47.—From SIPRE.

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BULL, COLIN, see also Hamilton, R. A., and others. British North Greenland Expedition, 1952–4 . . . results. 1956. No. 45412.

44194. BULL, G. A., and D. G. JAMES. Dust in the stratosphere over western Britain on April 3 and 4, 1956. (Meteorological magazine, Oct. 1956. v. 85, no. 1012, p. 293-97, 3 text charts.) Ref.

On Mar. 30, 1956, the volcano Bezymyannaya Sopka, Kamchatka Peninsula (55°57′ N. 160°32′ E.), erupted, sending ashes to 20 km. (67,000 ft.). A second eruption occurred on Apr. 1, gas and ashes rising to 10 km. On Apr. 3, a heavy haze layer over Anchorage, Alaska, was reported. Studies of upper air winds over the North American Arctic and Arctic Basin made at the British Meteorological Office indicated that a dust cloud seen over southwest England and northern Ireland on Apr. 3 originated in the Kamchatka eruption, having come directly across the Arctic Basin at average speed of about 40 m. p. h.

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BULL, W. R., see Smith, H. W., and W. R. Bull. Uranium ore research. 1956. No. 48085.

44195. BULLARD, R. W. Maintenance of arterial pressure and cardiac output in the hypothermic rat. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 28.)

Brief report of observations on cardiac output, mean arterial blood pressure, pulse and venous blood pressures, heart rate and blood viscosity at hypothermic stages between 36° and 14° C. Maintenance of arterial pressure despite lowered cardiac output was found to depend on increased peripheral resistance.

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44196. BULLOCK, THEODORE HOLMES. Compensation for temperature in the metabolism and activity of poikilotherms. (Biological reviews, Aug. 1955. v. 30, no. 3, p. 311-42, illus.)

A study and discussion of independence, within limits, of physiological processes in certain poikilotherms from temperature, including low temperature. Cases are assembled and analyzed from latitudinally separated populations of the same species or different species, from microclimatic adaptations, seasonal shifts in rates of processes, from experimental acclimatization, and rapid temperature-adaptations. The mechanisms of these adaptations, are discussed.

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44197. BUNTIN, G. N. Granulirovannye pegmatity Karelii; k voprosu o vozraste karel'skikh pegmatitov. (Leningrad. Universitet. Uchenye zapiski, 1938. no. 26, Serifa geologo-pochvennykh nauk, vyp. 6, p. 53–64, illus., map, diagrs.) 16 refs. Text in Russian. Title tr.: Granular Karelian pegmatites; problem of the age of Karelian pegmatites.

Contains review of different studies on pegmatite deposits and comparison with the characteristics of the pegmatites associated with two types of microclinic granites in the region of the Alekseevskiy mine. The ages of pegmatites associated with the magmatized granite were established by comparison with the ages of the The age Karelian microclinic granites. comparison by radiogeological data on uranium minerals of the same region differs appreciably due to discrepancy between the radiogeological and geological methods. Copy seen: DLC.

44198. BUNTIN, G. N. O genezise muskovitovykh pegmatitov severnol Karelii. (Leningrad. Universitet. Uchenye zapiski, 1940. no. 49, Serifa geologopochvennykh nauk, vyp. 9, p. 21–39, maps, tables, diagrs., microphotographs.) Text in Russian. *Title tr.:* Genesis of the muscovitic pegmatites in northern Karelia.

The geologic and mineralogical study was directed to establish the conditions for concentration of mica pegmatites related to geological structures of the Soroka, Kem', Loukhi, Chupa and other circumpolar micaceous regions, including White Sea gneissic formations. The description is illustrated with cross sections of veins and the penetration of molten pegmatite into the veins is diagrammed (p. 34–36). Tabulated analyses of the Karelian muscovitic pegmatites are given for different localities.

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44199. BUONGIORNO, F., and others. Contribute angiografice alla fisiopatelogia dell' ipotermia profonda, 3; il comportamento del sistema venoso portale nel cane ipotermico. (Annali Italiani di chirurgia, 1955. v. 32, fasc. 6, p. 503–512, illus.) 3 refs. Text in Italian. Other authors: P. Casolo and S. Massenti. Title tr.: Angiographic contribution to the physiopathology of deep hypothermia, 3; the behavior of the portal vein system in the hypothermic dog.

Account of a study with animals made hypothermic to 27°, 24° and 21° C. A considerable slowing of circulation and a diffuse but intense vasospasm, particularly at the lower temperature range, were regularly observed. No consistent indications of a reduction of the intrahepatic venous system or of a relaxation of the vasospasm were noted. The writers' two earlier contributions are No. 33818, 39069.

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44200. BURENIN, V. A. Vliîanie dobavki khloristogo kal'îsiîa na usadku rastvora. (Stroitel'naîa promyshlennost', Sept. 1956. god 34, no. 9, p. 36-37, diagr., graphs.) Text in Russian. *Title tr.:* The effect of the addition of calcium chloride on the shrinkage of concrete.

Changes in volume of concrete mixtures with and without this addition were studied during slow (52-day) hardening process at normal and at sub-zero (-5° and -15° C.) temperatures. The results are presented in three graphs. volume of the concrete mixture at normal temperature decreased with increased amount of CaCl<sub>2</sub> (3.5 and 7 percent). At low temperatures the volume increased with content of CaCl2 and decreased to normal after being heated to above 0° C. The effect of the addition on shrinkage can be controlled by temperature during even partial hardening with preservation of the frost-resistant property in the desired degree. Copy seen: DLC.

44201. BURENKO, P. A. Strugsnegoochistitel' dlia avtomobil'nykh dorog. (Lesnafa promyshlennost', Jan. 1956. god 34, no. 1, p. 20–21, illus. diagr.) Text in Russian. *Title tr.:* Grader-snowplow.

A V-type snowplow, manufactured in a Kostroma Forest Industry establishment and tested over a 2-yr. period, is described in detail. The equipment is designed to combine snow removal and the smoothing of ruts in snow roads. Two wings on frames are placed on runners with steel

blades set the same distance apart as the width of a truck base. Adjusting the blade position facilitates the smoothing of ruts of various depths and widths. The snowplow is used with a S-80 tractor, D-54 Diesel truck or an automobile.—From SIPRE.

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BURGE, GLORIA J., see Dale, H. E., and others. Effect of environmental temperature . . . blood and serum . . . body water . . . 1956. No. 44530.

BURGESS, F., see Pattle, R. E., and others. The effects . . . cold environment . . . toxicity of sulphuric acid mist . . . 1956. No. 47274.

BURGESS, LAWRENCE, see Haufe, W. O., and L. Burgess. Development of Aedes . . . Fort Churchill . . . 1956. No. 45470.

BURKE, ARTHUR WADE, 1927—, see Cleveland, L. R., and A. W. Burke, Jr. Effects . . . temperature . . . tension on oxygen toxicity . . . protozoa . . . 1956. No. 44392.

44202. BURKE, CHARLES VICTOR. Revision of the fishes of the family Liparidae. Washington, D. C., 1930. xii, 204 p. 110 illus. (U. S. National Museum. Bulletin 150.) 107 refs.

Contains introductory account (p. 4-38) of the history, structure and distribution (general, bathymetrical, temperature) of this family; followed in pt. 2 (p. 38-194) by a systematic treatment of it: keys and list of 114 species in 13 genera, with synonyms, distribution, synopsis, relationships and critical remarks, are given. At least 40 of the species are native to Greenland waters, northern Siberia, Bering Sea, Aleutian waters, Alaska Gulf and Okhotsk Sea.

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44203. BURKHANOV, VASILII FEDO-TOVICH. New Soviet discoveries in the Arctic. Moskva, Foreign Languages Publishing House, 1956. 60 p. illus., graphs, maps.

Translation of author's Novye sovetskie issledovaniû v Arktike, 1955 (No. 39075 of Arctic Bibliography) with some new illus.

Copy seen: DLC.

44204. BURKHANOV, VASILII FEDO-TOVICH. Podvodnyi khrebet. (Znanie -sila, Jan 1956. god 31, no. 1, p. 28-29, illus.) Text in Russian. Title tr.:

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Notes discovery of the Lomonosov submarine range in 1948 and its exploration by the Soviet High Latitudes Expeditions and by drifting stations in 1949-55. Need for further investigation of the Arctic Basin bottom is stressed.

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BURKHANOV, VASILIĬ FEDOTOVICH, see also Ogonëk. Mezhdunarodnoe sotrudnichestvo . . . 1956. No. 47151.

BURKHANOV, VASILIĬ FEDOTOVICH, see also Shcherbakov, D. I. Na samolete po Arktike. 1956. No. 47928.

44205. BURKIN, I. A. Zashchita ovoshchnykh kul'tur i kartofelia ot Moskva, zamorozkov. Gos. izd-vo sel'khoz. lit-ry, 1955. 128 p. illus., tables. About 100 refs. Text in Russian. Title tr.: Protection of vegetable and

potato crops from frost.

An account based on author's long experience and on other sources. secutive sections deal with responses of vegetable and potato plants to low temperatures; periods and types of frosts; calculating the frost possibilities; the effect of local factors on occurrence of frost; the effect of agrotechnical measures on frost intensity and damage; vernalization; methods of protection against frost: smoking, heating, mixing of air, sprinkling, covering, etc.

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BURNS, H. L., see Young, A. C., and others. Regional heat loss . . . ent calorimetry. 1955. No. 49026.

44206. BURT, JESSE C. The battle of the bergs. (Natural history, Apr. 1956. v. 65, no. 4, p. 186-91, 9 illus., 3 sketch

maps.)

Contains account of the origin, formation and movement of icebergs in the North Atlantic. Activities of the International Ice Patrol in the Grand Banks of Newfoundland area are described. The practicality of towing large bergs to relief of drought-stricken areas is discussed. Copy seen: DLC.

44207. BURTON, ALAN CHADBURN, 1904- . The clinical importance of the physiology of temperature regulation. (Canadian Medical Association, Journal, Nov. 1956. v. 75, no. 9, p. 715–20.)

Text of lecture dealing with the diurnal rhythm of body temperature and its

stability, mechanism of temperature regulation and its disturbances, the regulating center, fever and fever control, Copy seen: DNLM. etc.

BURTON, ALAN CHADBURN, 1904see also Froese, G., and A. C. Burton. Heat losses . . . head in the cold. 1956. No. 44984.

44208. BUSCHICK, RICHARD. Die Eroberung der Erde; dreitausend Jahre Entdeckungsgeschichte. Hannover, Fackelträger-Verlag [1955]. 400 p. illus., plates, maps. Text in German. Title tr.: Conquest of the earth; three thousand years of the history of discoveries. New rev. ed.

Popular history of voyages and travels from ancient to modern times, including polar travels (p. 158-65 and 286-376). Copy seen: DLC.

44209. BUSCK, AUGUST. A revision of the American moths of the family Gelechiidae, with descriptions of new species. (U. S. National Museum. Proceedings, May 9, 1903. v. 25, no. 1304, p. 767-938, illus., plates 28-32.)

Contains synoptic table of 35 genera of this family, keys to the species, descriptions of four new genera and 48 new species; synonyms, critical and distributional notes are given, also data on habitat and food plants of all known American species. Included (p. 897) are Gelechia labradorica and G. labradoriella from Labrador. Copy seen: DLC.

BUSCK, AUGUST, see also Engelhardt, G. P. The North American . . . Aegeriidae. 1946. No. 44783.

BUSH, RICHARD JAMES, see Voyage en traîneau . . . 187-7 No. 48821.

44210. BUSHNELL, VIVIAN C. Marvin's ice shelf journey, 1906. (Arctic, 1956. v. 9, no. 3, p. 166-77, port., text

map.) 4 refs.

Contains the text of an unpublished report by Ross G. Marvin discovered May 1954 at the U.S. National Archives. It recounts his journey of June 2-July 16, 1906 (during the Peary Expedition, 1905– 1906) along the front of the Ellesmere ice shelf during which ocean soundings were made from Point Moss westward to Cape Richards (approx. 83°00'-15' N. 67°-79° W.). Some results of the soundings are given in the narrative, but the data table accompanying the original report is not reproduced. Some biographical data on Marvin are given by V. C. Bushnell and his observations are compared (cf. map) with those of G. F. Hattersley-Smith and A. P. Crary during the Ellesmere Ice Shelf Expedition, summer 1954. An ice island photographed in 1947 is identified as part of the ice shelf as delineated by Marvin.

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BUSKIRK, E. R., see Impietro, P. F., and others. Maintenance of body temperature . . . rats . . . 1956. No. 45678.

BUSKIRK, E. R., see also Iampietro, P. F., and others. Rates of cooling rats . . . cold. 1956. No. 45677.

44211. BUTKOVICH, T. R. Strength studies of high-density snow. Wilmette, III., Oct. 1956. iv., 19 p. illus., diagrs., tables. (U. S. Army. Corps of Engineers. Snow Ice and Permafrost Research Establishment. Research report 18.) 15 refs.

Various strength tests were conducted under field conditions on naturally compacted high-density snow (0.40-0.75 gm./ cc.) obtained from the upper layers of the North Greenland icecap during the 1954 and 1955 field seasons. Results are tabulated and graphed, for unconfined compression, unconfined and confined double shear, ring, flexural, and centrifugal tensile strength, torsional shear, and work of disaggregation. An empirical expression is given which relates the various strength values to the snow density. Copy seen: CaMAI.

44212. BUTKOVICH, T. R. Strength studies of sea ice. Wilmette, Ill., Oct. 1956. iv, 15 p. diagrs., tables. (U. S. Army. Corps of Engineers. Snow Ice and Permafrost Research Establishment. Research report 20.) 6 refs.

The studies were conducted at Hopedale, Labrador, during March 1956. Techniques and test data are given. Ring tensile strength values ranged from 3.3 to 22.3 kg./sq. cm. at temperatures between  $-2.5^{\circ}$  and  $19.1^{\circ}$  C. beam tests gave flexural strength values from 0.5-17.3 kg./sq. cm. in a similar In-place pull-up temperature range. cantilever beam tests gave flexural strength values of 2.2-4.0 kg./sq. cm. Crushing strength values ranged from 26.3 to more than 107 kg./sq. cm. in the temperature range from  $-4.9^{\circ}$  to  $-18.3^{\circ}$ Values for Young's modulus were calculated from 4520-10,225 kg./sq. cm. Copy seen: CaMAI.

**44213. BUTLER, WESLEY H.** The hydroelectric power potential of Alaska. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub.* 1956, p. 53–63.)

On an estimate of 11,650,000 kw. of available power, less than 0.5 percent has been developed in the Territory of Alaska. Lack of transportation facilities, sedimentation problems, and ice formation are the principal factors deterring power development. Many areas are outlined which favor future development. Wood Canyon on the Copper River, is an outstanding site; several others and some of the special local problems are given.

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44214. BUTTERS, FREDERIC KING, 1878–1945. The American variety of Saxifraga aizoon. (Rhodora, Mar. 1944. v. 46, no. 543, p. 61–69, plate 817.)

Contains a study of this extremely variable plant native to Old and New World. The American plant is considered distinct from all the European varieties, and is described (in Latin and English) as S. a. var. neogaea; it is recorded in northern Quebec, Northwest Territories, Labrador and West Greenland. A form S. a. var. neogaea f. frigida is known from the same localities, also Baffin Island and Iceland.

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44215. BUTYGIN, S. Peredovoĭ kolkhoz zapol@r'@. (Okhota i okhotnich'e khoz@istvo, Mar. 1956. no. 3, p. 58.) Text in Russian. *Title tr.*: Leading collective farm in the arctic region.

Notes achievements of the collective farm "Put' Lenina" in Yamal National District: vegetable growing in hot houses, progress in reinder husbandry and in hunting.

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44216. BYDIN, F. I. O zimnem rezhime rek i metodakh ego izuchenifa. (Vsesofiznoe nauchnoe inzhenerno-tekhnicheskoe obshchestvo gidravlikov i gidrotekhnikov. 1. s''ezd, Moskva, 1931. Trudy, pub. 1934. p. 71–85, diagrs. graphs.) Refs. Text in Russian. Title tr.: On the winter regime of rivers and methods of its study.

The extensive study of winter conditions in rivers, conducted by the author from 1927 to 1931, is briefly described. The results were published in No. 44217. The terminology of ice formations (shuga, ledostav, ledokhod, etc.) is illustrated diagramatically, and daily observations of ice and water-flow conditions during winter graphically represented. Special

attention is given to "shuga" (sludge ice) and anchor ice. Copy seen: DLC.

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44217. BYDIN, F. I. Zimniĭ rezhim rek i metody ego izuchenifa. Leningrad, 1933. 240 p., illus., tables, graphs, diagrs. (Leningrad. Gidrologicheskiĭ institut. Issledovanifa rek SSSR, vyp. 5.) 113 refs. Text in Russian. Summary in French. Title tr.: The winter regime of rivers and methods of its study.

A study of winter processes in rivers, summarizing the investigations made in and outside of the U.S.S.R., is pre-Winter temperatures, precipisented. tation, evaporation, moisture migration in soil and their interrelations with the river regime are analyzed and discussed, Ice conditions (including terminology) and seasonal run-off variations are treated. Special attention is given to the freezing processes and to formation of ice and sludge packs troublesome in navigation and power plants. Theoretical considerations on river capacity and rate of flow are presented in relation to hydrological and meteorological conditions with mathematical consideration of reduction of flow in winter by formation of ice and snow cover, precipitation, amount of run-off, temperature variation. Hydraulic, hydro-meteorological and other methods of determination of winter river flow at freezing and thawing are described and the solutions are simplified with a graphical method (p. 21-66). Problems of precipitation, evaporation, filtration, ground-water supply, temperature and pressure changes are separately analyzed on the basis of observed data (p. 66-89). River ice conditions are indicated by the physical properties of ice given by Barnes (No. 1076), and other data on density, thermal conductivity, heat capacity, plasticity and other constants of ice and snow obtained since 1762 both in and out of the U.S.S.R. (p. 89-96). Conditions for the formation of anchor and surface ice, islands of anchor ice (patry), naleds, and for the growth and disintegration of the ice cover before spring movement are analyzed with illus. and mathematical formulas for water flow. Thermal effects of chemical composition of the water, biochemical processes, and of warm ground water are included in this analysis (p. 96-116). A program for study of river ice conditions is presented (p. 116-23). Specific cases of ice or sludge packs (on the Neva, Svir, etc.) are presented and distribution of restricted cross sections along the river length are diagrammed (p. 124-41). Information (Russian and foreign) on river freezing, growth of anchor ice, naleds, etc. is historically reviewed 1705-1931 (p. 141-49). study is proposed and graphically presented to correlate these data with those of atmospheric temperature variation, water flow and general precipitation (p. 149-78). Deformation of the ice cover frozen to the banks is discussed with calculation of pressure due to thermal expansion of the ice. Data on freezing and opening of northern rivers are tabulated and analyzed (p. 181-93). Preparation of reports, tables, and graphs is explained in detail (p. 193-233).

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44218. BYERS, FRANK MILTON, 1916-, and C. L. SAINSBURY. Tungsten deposits of the Hyder District, Alaska. Washington, D. C., U. S. Govt. Print. Off., 1956. p. 123-40. 7 maps (6 fold.), 3 tables. (U. S. Geological Survey. Bulletin 1024-F. Mineral resources of Alaska.) 3 refs.

Bedrock in the Hyder district (Portland Canal, Southeast Alaska, 56° N. 130° W.) consists of sedimentary and volcanic rocks of the Jurassic(?) Hazleton group intruded by plutonic rocks of the Coast Range batholith (Jurassic or Cretaceous). The scheelite-bearing deposits are mineralized shoots in quartz veins that cut the Texas granodiorite (oldest of the Coast Range intrusives) and inclusions of the Hazleton group within it. Other ore minerals include galena, pyrite, tetrahedrite, pyrrhotite, chalcopyrite, sphalerite, and native gold. Mines and prospects of the region are described, with suggestions for future exploration. Average grade of tungsten ore shoots on the Riverside and Mountain View properties is slightly greater than one percent WO. Copy seen: DGS.

BYKOV, A. A., see Orekhovskii, F. V., and A. A. Bykov. Opyt primeneniia seismorazvedki . . . 1956. No. 47190.

44219. BYKOV, V. Krai nepugannykh ptits. (Sovetskii voin, Aug. 1956. god 38, no. 16, p. 30-31, illus.) Text in Russian. *Title tr.:* Country of unfrightened birds.

Brief outline of the climate, geography, landscape and wildlife of Kola Peninsula, as a place for vacationists, hunters and fishermen. The vicinity of the village of Yena (approx. 67°36′ N. 31°10′ E.) in

the forest of Pinozero is particularly praised. **Copy seen:** DLC.

44220. BYLAND, MARGRET. Glazialmorphologische Untersuchungen auf Lofoten und Vesteraalen. Affoltern am Albis, Switzerland, 1936. xiii, 76 p., 16 photos, map. 140 refs. (Dissertation. Univ. of Zurich.) Text in German. *Title tr.:* Glaciomorphological investigation of Lofoten and Vesteraalen.

The petrography, climate, and appearance of these islands is sketched. They are characterized by strandflat on weaker granites and mountains of gabbro and monzonite; glacial action is referred to these features and to cirque basin and valley lakes. Basin lakes, generally the higher in elevation and more regular in shape, are believed to owe their position to conditions preceding the last glaciation, which was only local on these islands. Importance of the lakes in water power development is discussed.

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44221. BYLINKINA, ALEVTINA ALEKSANDROVNA, 1921–1951. Pod''em na Suelich, delstvuûshchil kupol vulkana Shiveluch v aprele 1949 g. (Akademiâ nauk SSSR. Kamchatskafa vulkanologicheskafa stantsifa. Bfûlleten', 1953, no. 19, p. 44–47, illus.) Text in Russian. Title tr.: Ascent of Suyelich, the active cone of the Shiveluch Volcano in April 1949.

Account of a trip to Shiveluch Volcano and ascent of the new lateral cone, made by the author's four-man party Apr. 18-19, 1949. Intensive fumarolic activity of the cone is noted and shown on photographs.

\*Copy seen: DLC.\*

44222. BYLINKINA, ALEVTINA ALEK-SANDROVNA, 1921–1951. Poezdka k krateram gruppy Tufla v iûle 1950 g. (Akademiâ nauk SSSR. Kamehatskafâ vulkanologicheskafâ stantsifâ. Bûlleten', 1953, no. 19, p. 60–61, illus.) Text in Russian. Title tr.: A trip to the craters of the Tuyla group in July 1950.

Account of trip to lateral cones Tuyla, Biokos' and Kirgurich formed in 1932 on the slope of Klyuchevskaya Sopka; their fumarolic activity is noted; location of cones and their lava streams is indicated. \*\*Copy seen: DLC.

44223. BYLINKINA, ALEVTINA ALEK-SANDROVNA, 1921–1951. Sostofanie pobochnykh kraterov Klfüchevskogo vulkana v mae 1949. (Akademifa nauk SSSR. Kamchatskaía vulkanologicheskaía stantsiía. Búlleten', 1953, no. 19, p. 48-50, illus.) Text in Russian. *Title* tr.: The state of the lateral craters of Klyuchevskiy Volcano in May 1949.

Account of a trip to lateral cones Yubileynyy (a group of cones), Apakhonchich and Bilyukay, made by the author's four-man party May 4-9, 1949. Activity of fumaroles is noted.

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4424. BYLUND, ERIK, 1922—. Glommersträsk by i Arvidsjaurs socken; en näringsgeografisk studie. Uppsala, Appelberg, 1947. xi, 118 p. diagrs., illus., maps, tables. (Geographica, nr. 19.) Text in Swedish. Summary in English. Title tr.: The village of Glommersträsk in Arvidsjaur commune; a study in economic geography.

Study of the most important agricultural community in Swedish Lapland (approx. 65°15′ N. 20° E.); it is 78.5 sq. km. in area, with snow cover 200-250 days a year, population (in 1945) of 658, and with electric power since 1918. The physical geography is described, and the settlement outlined from founding in Development of agriculture and subsidiary occupations, lumbering, the influence of improved communications on the economy in the 1890's, are described. Reclamation of bogs in the early twentieth century extended the arable land (from 79 to 224 hectares in 1916, to 439 h., 1946); stock raising and dairy farming became major interests. Population statistics are discussed and comparisons made between the village and the commune as a whole. Economic conditions 1928-1947 are dealt with in the final chapter in the light of earlier developments; and future prospects of the village are indicated: the dairy farms increasing, with agriculture and lumbering stable complementary industries. pasturage for cattle, possibilities for reclaiming land, and good communications are factors in economic success of the Copy seen: DLC.

44225. BYLUND, ERIC, 1922- . Koloniseringen av Pite Lappmark t.o.m. år 1867. Uppsala, Uppsala universitets geografiska institution, 1956. 448 p., illus., maps (2 in pocket), tables, diagrs. (Geographica, nr. 30.) About 330 refs. Text in Swedish. Summary in English. Title tr.: The colonization of Pite Lappmark up to and including the year 1867. This part of north Sweden (approx.

65°-67° N. 18° E.) was colonized about a century later (1750) than the areas to the north and south, where most of the early settlers were Finns who penetrated into the Swedish Lapp regions from the north and south, but not so far as Pite Lappmark. Seven successive phases of colonization are considered (cf. maps) and the changes which took place in each period are indicated. A distinction is made between Swedish and Lappish settler activity. Colonization initiatives, interruptions in the continuous habitation of a place and information on the descent or place of origin of the settlers are also shown. Most of the immigrants came from the two coastal country districts of Piteå and Skellefteå, particularly the latter, on the Gulf of Bothnia. The most important factor in the beginning of the movement into the Lappmark seems to have been social conditions in the Of decisive importance littoral regions. for the continuing colonization of Pite Lappmark has been the spread of successive generations, and local temperature has been determining influence in the pattern of settlement. Frosts were least severe high up the mountain slopes and on tongues of land in large lakes. index of place-names is appended.

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44226. BYRD, RICHARD EVELYN, 1888–1957. Skyward; man's mastery of the air as shown by the brilliant flights of America's leading air explorer; his life, his thrilling adventures, his North Pole and trans-Atlantic flights, together with his plans for conquering the Antarctic by air. New York, Putnam, 1928. xv, 359 p. illus. plates, ports., maps on lining papers. Reprinted: New York, Blue Ribbon Books, 1937.

Contains an autobiographical narrative covering the author's early military career and later flying experiences, including his polar and Atlantic flights. Earlier flights over Greenland in 1925 are described as well as the preparation and operations leading up to the successful flight over the North Pole on May 9, 1926.

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BYROM, R. F., see Baker, P. T., and others. Relationship . . . skinfold thickness . . . body cooling . . . 1955. No. 43823.

**44227. BYSTRÖM, ANN MARIE.** Harmotome penetration of a scapolite partly altered to argillite material in Ultevis,

north Sweden. (Geologiska föreningen, Stockholm. Förhandlingar, 1956. bd. 78, nr. 487, häfte 4, p. 645–52, 4 illus., diagr., 3 tables.) 4 refs.

"Specimens from the unusual mineralization in the Ultevis district [Jokkmokk] . . . have been investigated. In connection with pegmatites near a small ore body at Tjatitsvare, different stages of decomposed scapolites have been found. Harmotome crystals penetrate the scapolite which has partly been altered to a poorly crystalized kaolin mineral and montmorillonite."—Author's abstract.

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44228. BYSTROV, A. P. Kolymaspis sibirica gen. nov. sp. nov. (Akademiña nauk SSSR. Doklady, Sept. 11, 1956. v. 110, no. 2, p. 277-79, illus.) Ref. Text in Russian.

Contains description of this fossil fish without jaw-bones, based on a skull found in the Kolyma basin (Taskan River, a left tributary) in eastern Yakutia, in a layer of very dark bituminous sandstone. The geological age is not certain, probably the lower Devonian period.

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44229. CABANISS, W. HARVEY, Jr. Abnormal sensitivity of the skin to sunlight. (Virginia medical monthly, Aug. 1956. v. 83, no. 8, p. 327-31.) 12 refs.

A review of the essential aspects of the problem, including a definition of photosensitivity; mechanisms of photosensitivation; physical aspects of sunlight; photosensitive diseases, their classification, causes, symptoms, prevention and therapy.

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CADE, TOM J., see Kessel, B., and T. J. Cade. Habitat . . . birds . . . Colville River. 1956. No. 45951.

44230. CAHALANE, VICTOR HARRI-SON, 1901 - . Katmai, America's largest nature reserve. (Oryx, May 1956, v. 3, no. 4, p. 172-79, 2 plates, sketch map.)

Popular description of Katmai National Monument. The great eruption of Mt. Katmai on June 6, 1912 is noted; geography and natural history zones (Hudsonian and Arctic) of the region are described. Its mammals (brown bear, great Alaska moose, Grant's caribou, etc.) are given as 25 species, and birds as 130. The red and silver salmon and steelhead or sea-run trout are numerous. A total of 273 species of plants, from algae to composites are recorded. This magnificent scenic-

biologic area in southwestern Alaska, now open to hunting, should be safeguarded as Katmai National Park, writer states.

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44231. CAHN, J., and G. GEORGES. Exploration de la réactivité hypophysosurrénalienne sous réfrigération externe chez le rat blanc. (Société de Biologie, Paris. Comptes rendus, Dec. 1955. t. 149, no. 13–14, p. 1402–1405, tables.) 4 refs. Text in French. Title tr.: Exploration of pituitary-adrenal reactivity during external cooling of the white rat.

Following the cooling of the entire animal, a lowering of the ascorbic acid content of the adrenal was observed: within an hour this was not less than that produced by injection of 5 mg. of ACTH

per animal of 150 g.

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44232. CAHN, J., and P. HUGUENARD. Ibernazione artificiale, neuroplegia+refrigerazione, con derivati diidrogenati della segale cornuta; studio sperimentale; prove cliniche preliminari. (Minerva anestesiologica, Jan. 1955. anno 21, no. 1, p. 14–17.) Text in Italian. Summary in English. Title tr.: Artificial hibernation, neuroplegia+refrigeration, with dehydrogenated derivatives of ergot; preliminary study; preliminary clinical tests.

Following a description of the pharmacology of Hydergine and its effects upon the organism, the authors present a new technique of "artificial hibernation;" in it they use this preparation instead of Dibenzoparathiazine derivatives.

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44233. CAHN, J., and others. Métabolisme cardiaque sous hibernation artificielle. (Anesthésie et analgésie, 1956. t. 13, no. 4, p. 702–711, illus, table.) 11 refs. Text in French. Summary in English. Other authors: M. Hérold, and J. M. Melon. Title tr.: Cardiac metabolism during artificial hibernation.

Account and discussion of experiments with dogs. Under hypothermia induced external cooling, deep barbituric anesthesia upset metabolism. Under "artificial hibernation," fractional intravenous injection of drugs suppressed the imbalance caused by barbiturates, and hypothermia was followed by reduced dextrose utilization. Somatotrophic hormone or Recosen, administered under external cooling or under "artificial hibernation," is followed by metabolic disturbances.

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CAHN, J., see also Georges, G., and J. Cahn. Exploration . . . du cortex surrengl . . . 1955. No. 45072.

CAHN, J., see also Georges, G., and J. Cahn. Exploration . . . réactivité . . . couple hypophyso-surrénalien . . . neuroplégie, réfrigération . . . 1956. No. 45071.

44234. CAILLEUX, ANDRÉ, 1907—. L'Année Géophysique Internationale. (Géographia, Feb. 1956, no. 53, p. 29–32; Mar. 1956, no. 54, p. 32–35, illus., 2 ports., text map.) Text in French. *Title* tr.: The International Geophysical Year.

Two-part article briefly describing the International Polar Years of 1882-1883 and 1932-1933; preparation for the International Geophysical Year, 1957-1958; French participation; scientific research programs in latitude and longitude, length of day, measurements of ice thickness in Antarctica, oceanography; supply problems, Copy seen: DGS.

44235. CAILLOUX, MARCEL LOUIS, 1914-. The ascent of sap in the dormant and winter condition. (Revue canadienne de biologie, May, 1956. v. 15, no. 1, p. 77-81.) 12 refs.

Text of a lecture (to Research Conference on Plant Physiology, Ottawa, Oct. 1955) on the quantitative and qualitative effects of low temperature upon sap flow. The effect of temperature on the sugar: starch relation is demonstrated and the physiology of sap rise discussed.

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44236. CAIN, JACQUES, and others. Quelques effets psychologiques et neurologiques de l'hypothermie et de l'anoxie chez le rat conditionné. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 4, p. 737-38.) 2 refs. Text in French. Other authors: J. Extrement and H. Extrement. Title tr.: Some psychologic and neurologic effects from hypothermia and anoxia in conditioned rats.

Account of experiments with rats conditioned to color discrimination and to a T labyrinth test, and made hypothermic to 13° C. for 5–45 minutes. The effect of duration of hypothermia upon the preconditioned responses and also upon comportment and cortical reflexes of posture and tonus, were studied.

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44237. CAIN, JOSEPH CARTER, 1930- An analysis of the lunar and solar effects of geomagnetic variations at Sitka, Alaska, from 1902 to the present, (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 116–17.)

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Contains abstract of paper describing preliminary results of the average values of a few summations of days of like magnetic activity, solar activity, lunar phase, lunar distance, and season. Data used were the hourly magnetic values for the three components published by the U. S. Coast and Geodetic Survey for the Sitka Observatory.

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44238. CAIN, JOSEPH CARTER, 1930 - Storm-time variations in the geomagnetic field at high latitudes. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 34.)

The storm-time variations Dst(H) for Sitka were determined for a selected group of 149 magnetic storms divided into three intensity groups using data for 1902–1936. The results are seriously affected by irregular fluctuations.

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44239. CAIN, ROY FRANKLIN, 1906— . Studies of coprophilous Ascomycetes, II; Phaeotrichum, a new cleistocarpous genus in a new family, and its relationships. (Canadian journal of botany, July 1956. v. 34, no. 4, p. 675–87, 20 illus.) 3 refs.

Contains descriptions of Phaeotrichaceae n. fam., Phaeotrichum n. gen. and P. circinatum n. sp., described from specimens collected on lemming dung in northern Quebec. The new genus is made the type of a new family of cleistocarpous Ascolocurales, with a discussion on the evolution of cleistocarps. Pts. I, III, IV of this series do not contain arctic material; pts. V and VI are to be listed in vol. 9 of Arctic Bibliography.

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44240. CALDAROLA, LEONARDO. L'ipotermia nella chirurgia cardiaca. (Minerva anestesiologica, Aug. 1955. anno 21, no. 8, p. 179-85, illus.) about 175 refs. Text in Italian. Summary in English. *Title tr.:* Hypothermia in cardiac surgery.

Author presents an outline of the physiology and pathology of the hypothermic state proceeding from system to system and covering the main body functions. He then discusses the indications for elective application of hypothermia in cardiac and central nervous surgery.

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44241. CALDER, RITCHIE. The changing Arctic. Montreal, Canadian Broadcasting Company, Feb. 1956. 4 p. Mimeographed.

Script of a CBC broadcast made on Feb. 16, 1956, dealing with changes brought about by the white man during the past fifty years, in the Eskimo's way of life: his hunting methods, religion, morals. The Eskimo's mechanical genius, its use in present construction activities in the Arctic, his education in schools, etc., are touched upon, with speculation on the effect in the future.

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CALDWELL, WARREN W., see Osborne, D., and others. The problem of Northwest . . . 1956. No. 47203.

CALHOUN, W., see Johnson, H. A., and W. Calhoun. Markets . . . products of cropland . . . 1950. No. 45812.

44242. CAMERON, ROBERT A. The geology and geomorphology of Ellesmere Island. Montreal, McGill University, Dept. of Geological Sciences, 1956. 44 p. fold. sketch map. Typescript. 31 refs.

A term paper summarizing available information on geology, geomorphology, and glacier cover of each large region of Ellesmere: Lincoln Land, Ellesmere Land, Grinnell Land, and Grant Land. A list of geomorphological research problems is given.

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44243. CAMERON, THOMAS W. M. A new species of Heligmosominae from the Labrador collared-lemming. (In: Vsesoūznaß akademiß sel'skokhozω̃stvennykh nauk. Raboty po gel'mintologii, 1937, p. 66–68, illus.) 2 refs.

Description of a new species of nematode Heligmosomum hudsoni n. sp. found in the large intestine of preserved material from northern Quebec and Baffin Island. Anatomy including sexual differences as well as taxonomic status are discussed.

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CAMPBELL, DAN HAMPTON, 1908—see Sutherland, G. B., and D. H. Campbell. Cold-adapted animals, 1; changes in blood . . . plasma. 1956. No. 48266.

CAMPBELL, DAN HAMPTON, 1908—, see also Sutherland, G. B., and D. H. Campbell. Immunochemical and blood... studies ... "cold adapted" animals. 1956. No. 48267.

44244. CAMPBELL, MARJORIE EL-LIOTT (WILKINS), 1901—. The Nor'westers; the fight for the fur trade. Illustrated by Illingworth Kerr. New York, St. Martin's Press, 1956. 176 p. illus. (Great stories of Canada.)

Popular account of the North-West Company its formation in 1779, with headquarters at Montreal, its activities, notable members, methods and areas of fur trading; mergers with the Detroit firm of Gregory, McLeod and Co. and with the X. Y. Co.; explorations of Alexander Mackenzie; competition and conflicts with the Hudson's Bay Company and eventual union with it in 1821.

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44245. CAMPBELL, N. J., and A. E. COLLIN. A preliminary report on some of the oceanographic features of Foxe Basin, 1955. St. Andrews, N. B., Joint Committee on Oceanography, Atlantic Oceanographic Group, May 1956. iii, 64 p. 18 text charts, graph, 6 tables. Mim-

eographed. 28 refs.

Contains results of investigations during summer 1955 in HMCS. Labrador. Geology, topography, bottom topography, bottom sediments, and climate are described, as bearing close relation to many oceanographic characteristics. Ice conditions in Foxe Basin and Channel are discussed; seasonal variation of temperature, salinity, and oxygen is considered, also distribution of temperature and salinity, circulation within the basin, and origin of dirt on the ice. The biological program is noted. Copy seen: CaOGB.

CAMPBELL, N. J., see also Canada. Joint Committee on Oceanography. Annual reports . . . 1955–56. 1956. No. 44266.

44246. CAMPBELL, R. A., and others. Experimental electric smelting of manganese ores. (Canadian mining and metalurgical bulletin, Apr. 1956. v. 49, no. 528, p. 274–80, graph, 9 tables.) Also pub. as: Canadian Institute of Mining and Metallurgy. Transactions, 1956. v. 59, p. 174–80. Other authors: G. E. Viens and R. R. Rogers.

Includes (p. 279-80) description of preliminary experiments in smelting a manganiferous iron ore (13 percent manganese) from Knob Lake, northern Quebec. Results are shown in table. Spiegeleisen with desired Mn content of 16 percent was not produced, In further experiments attention will be paid to maintaining an optimum base: acid ratio in the slag and to reducing Mn loss due to volatilization. Possibility of producing a standard grade of spiegeleisen by a single-stage smelting process is indicated.

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44247. CANADA. AIR TRANSPORT BOARD. Directory of Canadian commercial air services. Ottawa, Queen's Printer, 1950, in progress. Prepared by the Board's Licensing Division, and pub. from Mar. 1, 1950.

This comprehensive annual index with amendments monthly, lists commercial air services provided under licenses of the Canadian Air Transport Board. Part I contains an alphabetical listing of points (many in the North) with data on commercial air service provided, including name of carrier, class of service, license number, and operating certificate number. Part II contains an alphabetical listing of commercial air carriers with the information repeated.

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CANADA. ARMY. CORPS OF . . . ENGINEERS, see U. S. Army. Corps of Engineers & Canadian Army Engineers. Digest, perma-frost. 1949. No. 48549.

CANADA. BOARD ON GEOGRAPHI-CAL NAMES, see Arctic. Geographical names . . . Canadian North. 1956. No. 43719.

44248. CANADA. DEFENCE RESEARCH BOARD. List of translations from Russian (Yugoslav, Ukrainian, Polish) as of April 30, 1955: supplement April 30, 1956; supplement Sept. 30, 1956. Ottawa, 1956. 2 p., 2 p. Mimeographed.

Two supplements to No. 39116, list 48 papers translated from Russian, two from Japanese, one from Chinese. Approx. half the Russian papers deal with the arctic regions, ice, permafrost, aurora, etc. Copy seen: CaMAI.

CANADA. DEFENCE RESEARCH KINGSTON LABORATORIES, see Nordland, O. S. Occurrence of listeriosis . . mammals . . . 1955. No. 47071.

CANADA. DEFENCE RESEARCH MEDICAL LABORATORIES, see Armstrong, J. G. U. K. 10-man composite ration pack . . . user trials . . . 1954. No. 43738.

CANADA. DEFENCE RESEARCH MEDICAL LABORATORIES, see also Armstrong, J. G. U. S. arctic trail ration AT-1 . . . user trials . . . 1954. No. 43739.

CANADA. DEFENCE RESEARCH MEDICAL LABORATORIES, see also Armstrong, J. G. U. S. . . . combat ration C-3 . . . user trial . . . 1954. No. 43740.

CANADA. DEFENCE RESEARCH MEDICAL LABORATORIES, see also Armstrong, J. G. U. S. . . . 5-in-1 B . . . user trials . . . 1964. No. 43741.

CANADA. DEFENCE RESEARCH MEDICAL LABORATORIES, see also Ballantyne, R. M., and R. C. Anglin. The effect of temperature on . . . ration pack RPX 1B. 1955. No. 43854.

CANADA. DEFENCE RESEARCH MEDICAL LABORATORIES, see also Berryhill, F. M., and others. Arctic survival food packets X-50 and RPX 2B. 1954. No. 44008.

CANADA. DEFENCE RESEARCH MEDICAL LABORATORIES, see also Berryhill, F. M., and others. Stability . . . ration pack RPX-1. 1955. No. 44009.

CANADA. DEFENCE RESEARCH MEDICAL LABORATORIES, see also Ducker, A. J. Effects . . . freezing . . . canned vegetables. 1954. No. 44673.

CANADA. DEFENCE RESEARCH NORTHERN LABORATORY, see also Seaman, E. A., and H. B. Lutz. A portable heart beat recorder . . . 1956. No. 47866.

CANADA. DEFENCE RESEARCH NORTHERN LABORATORY, see also Seaman, E. A., and others. A telemetry system . . . body temperatures and heart beats . . human . . . 1956. No. 47867.

**44249.** CANADA. DEPT. OF FISH-ERIES. ICNAF; intensified study of Northwest Atlantic. (*Its:* Trade news, July 1956. v. 9, no. 1, p. 3-6, illus.)

Report on the research program adopted at the sixth annual meeting of the International Commission for the Northwest Atlantic Fisheries, held at Halifax, N. S., in June 1956. Excerpts from reports of the major fishing countries, the panels, and of the Soviet and German observers are included, also notes on the work of the

Standing Committee on Research and Statistics, of the Cod Symposium, etc. Copy seen: DI.

44250. CANADA. DEPT. OF FISH-ERIES. Lake whitefish. (*Its:* Trade news, Oct. 1956. v. 9, no. 4, p. 8, illus.)

Contains information on distribution of this whitefish in Canada; substantial fisheries, including those of Great Slave Lake and the Yukon Territory; taxonomy, morphology, and size; food, ecology, reproduction; methods of fishing; marketing; conservation; parasites.

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44251. CANADA. DEPT. OF FISH-ERIES. Riches of the Great Slave. (*Its*: Trade news, Nov. 1956. v. 9, no. 5, p. 8–9, 11, tables, map.)

Article based on the narration of the film "Fisheries of the Great Slave," with information on white man's discoveries of the area (Mackenzie District) and the Lake, geography and communications, resources; scientific exploration of the Lake's fisheries potential; commercial exploitation, bases and methods of operation, yields, marketing, etc.

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44252. CANADA. DEPT. OF FISH-ERIES. Trade news. [News notes.] (Canada. Dept. of Fisheries. Trade news, 1956. v. 8, no. 7- v. 9, no. 6.)

Contains in addition to monthly fishery statistics, including such for northern areas, information on Japanese fishing activities in the Bering and Okhotsk Seas during 1955 (v. 8, no. 7, p. 16); Great Slave Lake fisheries, summer 1955 (v. 8, no. 9, p. 10-11); the "inconnu," common fish of the Mackenzie Basin, and its biology (v. 8, no. 12, p. 9-10); North Pacific halibut seasons (v. 9, no. 2, p. 8); the rosefish, a common North Atlantic form, its morphology, biology and exploitation (v. 9, no. 4, p. 11).

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44253. CANADA. DEPT. OF MINES AND TECHNICAL SURVEYS. Annual report . . . for the fiscal year 1955–56. Ottawa, Queen's Printer, 1957. 113 p. 2 fold. maps, tables.

Deals with field and laboratory work, Apr. 1, 1955–Mar. 31, 1956, of the Surveys and Mapping Branch, Geological Survey, Mines Branch, Dominion Observatories, and Geographical Branch; and includes many operations in arctic and subarctic Canada. Subjects covered are similar in scope to those of previous reports (No. 33865, 39127). Publications of the Dept. during the year are noted.

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44254. CANADA. DEPT. OF MINES AND TECHNICAL SURVEYS. GEO-GRAPHICAL BRANCH. Canadian maps, 1949–1954. Ottawa, Queen's Printer, 1956. 82 p. (*Its*: Bibliographical series, no. 16.)

In two parts: (1) a selected bibliography of maps published by federal and provincial governments and other agencies, arranged by region (Canada, provinces, territories) and subdivided by subject; (2) a comprehensive list of map sheets of the various federal topographic services, published or republished (revised) during 1949-1954; these are listed by map number under the various scales. tailed geologic maps, hydrographic charts and certain special subject maps of limited areas are excluded. Maps of northern Canada are included in both sections, in the first under the headings Western Canada, Manitoba, Newfoundland, Ontario North, Quebec North, Yukon and Northwest Territories.

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44255. CANADA. DEPT. OF MINES AND TECHNICAL SURVEYS. GEO-GRAPHICAL BRANCH. Selected bibliography of Canadian geography with imprint 1955. Ottawa, Queen's Printer, 1956. 61 p. (*Its*: Bibliographical series, no. 17.)

Seventh in this series published since 1949 (see No. 33869, 39128). References are presented by region and grouped according to subject. Arctic and subarctic material is included under Canada, Eastern Canada, Newfoundland (including Labrador), Quebec, Ontario, Western Canada, Manitoba, Northwest Territories and Yukon. Appended is list of university graduate dissertations and theses on Canadian geography 1955.

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44256. CANADA. DEPT. OF NORTHERN AFFAIRS AND NATIONAL RESOURCES. Annual report, fiscal year 1954–1955, 1955–1956. Ottawa, Queen's Printer, 1956, 1957. 2 v.: 115 p., 111 p. illus., fold. map, tables.

Second and third annual reports of this Department similar in scope to the first (No. 39129) and including much information on activities in the Arctic and sub-Arctic. Appendices present statistics,

and detailed reports on special projects; publications issued 1954-1956 are listed; Commissioners for Northwest Territories and Yukon report on legislation, economic activity, civil service, workmen's compensation, health, education, welfare, liquor, game conservation and fur export, municipal and local improvement districts, finances and taxation, road, bridge, and building maintenance and construction. Human problems in the Canadian North are treated in a special article in the Dept. report for 1954-1955 (p. 9-20), particularly those of the Eskimos and Indians: effects of contact with white civilization, health, economy, employment on defense projects, administration, education. Report for 1955-1956 has an account of water resources and Canada's hydrometric survey (p. 9-16) with some references to northern areas.

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44257. CANADA. DEPT. OF NORTH-ERN AFFAIRS AND NATIONAL RE-SOURCES. FORESTRY BRANCH. Native trees of Canada. Fifth edition Ottawa, Queen's Printer. 1956. xvii, 293 p. illus., 172 text maps. (*Hs*: Bulletin 61.)

A publication for the layman, describing occurrence and characteristics of 172 Canadian tree species. Brief discussion of nomenclature and a checklist of the trees are given, with botanical name, English and French common names. Descriptions follow of each species, first of coniferous, then broad-leaved trees, with local English name as well as scientific and common one. Accompanying the text are range maps showing distribution of the species throughout Canada, including subarctic areas, and photographs of bark, leaves, needles, cones, fruit, flowers, etc. Alphabetical index of names is appended. Copy seen: CaMAI.

44258. CANADA. DEPT. OF NORTH-ERN AFFAIRS AND NATIONAL RE-SOURCES. WATER RESOURCES DI-VISION. Surface water supply of Canada. Arctic and western Hudson Bay drainage and Mississippi drainage in Canada; in British Columbia, Alberta, Saskatchewan, Manitoba, the Northwest Territories and western Ontario. Climatic years 1951–52 and 1952–53. Ottawa, 1956. 581 p. text map, tables. (Its: Water resources paper, no. 113.)

Includes data for the Mackenzie River at Simpson and Norman Wells, Slave River at Bell Rock (Fort Smith station abandoned), Great Slave Lake basin, Liard River basin, Great Bear Lake basin at Port Radium, Nelson and Churchill River basins. In most cases, monthly and daily discharge and monthly summaries of lake levels, inflow and outflow are given for years ended Sept. 30, 1952 and 1953. Daily gauge heights are given for some stations. For earlier data on these river basins see No. 21104 and 33873.

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44259. CANADA. DEPT. OF NORTH-ERN AFFAIRS AND NATIONAL RE-SOURCES. WATER RESOURCES DI-VISION. Surface water supply Canada. St. Lawrence and southern drainage, Hudson Bay Ontario Quebec, climatic years 1951-1952 and 1952 and 1953. Ottawa, Queen's Printer, 463 p. text map, tables. Water resources paper, no. 111.) Text in English and French.

Includes data (p. 416-51) for southern Hudson Bay drainage on monthly and daily discharge of the Albany, Moose, Harricana, and Nottaway River basins for the period Oct. 1, 1951 to Sept. 30, 1953. Maximum, minimum, mean, and per-square-mile discharge in second feet, and run-off depth in inches over drainage area are given. For earlier data see No. 2759, 21106, 33879. Copy seen: DGS.

44260. CANADA. DEPT. OF TRANS-PORT. List of lights and fog signals, Newfoundland, including the coastal waters of Labrador . . . 1956. Ottawa, Queen's Printer, 1956. 82 p. tables.

Includes (p. 44-49) 39 stations along the Labrador coast 51°58′ - 56°28′ N. For each, the location is given; also color, character, and period of light or signals, height (ft.) above high water, miles seen in clear weather, the apparatus, building, flashes/min. and period of operation (year round or open navigation season) are indicated.

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44261. CANADA. DEPT. OF TRANS-PORT. Navigation conditions on the Hudson Bay Route from the Atlantic seaboard to the port of Churchill. Season of navigation 1955. Ottawa, Queen's Printer, 1956. 149 p. illus., 2 text maps, diagrs., tables. (Its: Annual report 27.)

Contains an historical note on the Route by N. L. Nicholson; lists of hydrographic and navigation aids in Hudson Bay and Strait; shipping reports from Resolution Island and Churchill; reports by masters of 12 cargo vessels using the

Route; ice reports from the CGS. N. B. McLean and from Resolution Island, Advance, Nottingham Hopes Island, and Churchill. An analysis of these reports is given by A. D. Hood, with ice locations charted, types of ice sketched, also weather summary, and meteorological data from seven stations in the Strait, the N. B. McLean, C. D. Howe, Edward Cornwallis, and the Hudson's Bay Co. vessel Rupertsland; dimensions and equipment of the three Government ships are included. Earlier years' reports are listed as No. 21107, 33882, 39133. Copy seen: DLC.

44262. CANADA. FISHERIES RE-SEARCH BOARD. Arctic unit Montreal, Que. (Its: Annual report, 1955, pub. 1956, p. 111-14.)

Contains general information on the need for fishery and marine biological investigation; the Calanus operations during summer 1955 (mainly walrus investigations); fisheries research in the Western Arctic and fresh waters (Great Slave Lake, Mackenzie River, etc.); phytoplankton of the Hudson Bay; biology of the white whale, walrus and ringed seal of the northern Hudson Bay.

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44263. CANADA. FISHERIES RE-SEARCH BOARD. Eastern Arctic investigations. (*Its:* Annual report, 1954, pub. 1955. p. 107–111, table.)

Contains information on the activities of the Calanus from mid-June to mid-September 1954 (plankton and littoral collections, walrus and seal studies); temperature and salinity observations near Churchill, Feb. 1954; walrus observations, census and tagging in northern Hudson Bay; study of ringed seal material collected in 1953, largely in the Cape Dorset area; density inversions; plankton and productivity work, etc.

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CANADA. FISHERIES RESEARCH BOARD. EASTERN ARCTIC INVES-TIGATIONS, see Grainger, E. H., and M. J. Dunbar. Station list . . . Calanus . . . 1953-54. 1956. No. 45204.

CANADA. GEOLOGICAL SURVEY, see Lang, A. H. Prospecting in Canada. 1956. No. 46239.

44264. CANADA. HYDROGRAPHIC SERVICE. Atlantic Coast tide and current tables, 1957. Ottawa, Queen's Printer, 1956. 185 p. tables. (*Its*: Tidal publication, no. 1.) Prepared by the Tidal and Current Survey under C. M. Cross.

Contains information obtained to (and through) 1955 for the St. Lawrence region and northward, including Labrador, Hudson Bay and Strait, James Bay, and the Canadian Arctic Islands. Data on time differences, tide tables, and tidal currents are similar to that in No. 33888, 39135 of Arctic Bibliography, with description of tidal currents in Hamilton Inlet, Hudson Strait and Digges Sound, and Chesterfield Inlet.

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44265. CANADA. HYDROGRAPHIC SERVICE. Supplement no. 1 to the 1954 edition of the Labrador and Hudson Bay pilot, corrected to November 16th, 1956. Ottawa, Queen's Printer, 1956. 20 p.

Contains additions, deletions, and substitutions to No. 39136. Includes all information affecting this pilot up to and including Notice to mariners no. 139 of 1956, particularly information on Rankin Inlet (62°45′ N. 92° W.), its approaches, and names of islands in and near the inlet.

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44266. CANADA. JOINT COMMITTEE ON OCEANOGRAPHY. Annual reports of the Oceanographic Groups for 1955–56. St. Andrews, N. B., Apr. 1956. 56, 75 p. text maps, graphs, tables. Mimcographed.

In two parts, covering work of the Atlantic and the Pacific Oceanographic Groups. Both list personnel and outline the field program during 1955 and early 1956, associated programs, and general results, noting published and manuscript reports on the work. Then follow summary accounts of the various expeditions and some of their results.

Atlantic Group activities are represented in two reports by W. B. Bailey (p. 38–42) on the origin of the deep Baffin Bay waters and the temperature and salinity of Baffin Bay-Davis Strait, Canadian Arctic Islands waters, and Beaufort Sea, based on data collected during the Labrador's cruise in summer 1954 through the Northwest Passage; six reports by N. J. Campbell (p. 43–51) on bottom topography, biological observations, current measurements, ice conditions, and temperatures in Foxe Basin and Channel, based on data collected by the Labrador in summer 1955.

The Pacific Group which has withdrawn from active research in the Western Arctic, leaving that area to the Labrador, offers four summary reports (p. 35-49) on the Hecate Project (British Columbia waters, including Dixon Entrance, Southeast Alaska): two by F. G. Barber on water masses and current observations, heat budget studies by S. Tabata, and tides by N. P. Fofonoff, based on seven oceanographic surveys, May 1954-June 1955, in the HMCS. Cedarwood, CNAV. Ehkoli, and HMCS. Jonquiere. Two reports by A. J. Dodimead (p. 50-56) deal with Project NorPac, a synoptic oceanographic survey of the North Pacific from 20° N. to Bering Sea. Twenty U. S., Canadian, and Japanese ships occupied 1200 stations during July-Sept. 1955, making temperature and salinity observations, plankton collections, geomagnetic current measurements. weather observations, and noting sea and bird life. Some results are given, and the relation of water structure to the distribution of salmon in the Gulf of Alaska is discussed. Copy seen: CaOGB.

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44267. CANADA. JOINT COMMITTEE ON OCEANOGRAPHY. Minutes of a meeting to discuss standardization of sea ice terminology in North America, required by the chairman, Canadian Joint Committee on Oceanography. Ottawa, 1956. 3 p. Mimeographed.

Records meeting, Nov. 14, 1956, of U. S. and Canadian government representatives, and one from the Scott Polar Research Institute, Cambridge, Eng. A Canadian glossary of sea ice terminology (prepared by I. M. Dunbar) was presented: the forthcoming World Meteorological Organization Ice Nomenclature was discussed; the latter and its ice code (when completed in 1957) are to be basic for North America. Canadian iceobserving program, U. S. plans for an international symposium on sea ice (fall 1957), and sea ice research by the Canadian Defence Research Board are also noted. Copy seen: DN-HO.

44268. CANADA. JOINT COMMITTEE ON OCEANOGRAPHY. Review of Canadian oceanographic studies in the North Pacific Ocean, 1955–56. Nanaimo, B. C., Pacific Oceanographic Group, Oct. 1956. 29 p. 9 text charts, graphs.

Includes preliminary results of Project NORPAC, a U.S.-Canadian-Japanese oceanographic investigation in the North Pacific and Bering Sea, in which Canada surveyed the area 47°-55° N. and west to long. 180° in Aug. 1955; in Aug. 1956 an

extensive survey of the Gulf of Alaska and adjacent waters was carried out. Summarized results are presented (with charts) for summer temperature distribution and structure, surface salinity and salinity structure, dissolved oxygen concentration, circulation. These data are related to salmon distribution.

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44269. CANADA. JOINT COMMITTEE ON OCEANOGRAPHY. PACIFIC OCEANOGRAPHIC GROUP. Physical and chemical data record, Dixon Entrance, Hecate Strait, Queen Charlotte Sound, 1934, 1937, 1938, 1951. Nanaimo, B. C., Apr. 1956. 56 p. 4 text charts, tables. (*Its:* Report no. 27.) 9 refs.

Contains data collected by personnel of the University of Washington in Dixon Entrance (Southeast Alaska; 54°28' N. 131°51′ W.), Sept. 1934 and July 1937 in the MV. Catalyst (23 stations) and by the Canadian Pacific Oceanographic Group and Fisheries Research Board in Dixon Entrance and British Columbia waters, May-June 1938 in the MV. Amlac (61 stations), May, July-Aug. 1951 in the HMCS. Cedarwood (67 stations). each station the following information is given: lat. and long., date and time, depth to bottom, weather conditions, depth of sample, sea temperature, salinity, dissolved oxygen content, density. Personnel taking part in the surveys are listed. Copy seen: DN-HO.

44270. CANADA. JOINT COMMITTEE ON OCEANOGRAPHY. PACIFIC OCEANOGRAPHIC GROUP. Physical, chemical and plankton data record, Project NORPAC, July 26 to September 1, 1955. Nanaimo, B. C., Feb. 1956. 202 p. illus., 3 text charts, diagr., graphs, tables. (Its: Report no. 26.) 10 refs.

Contains results of Canadian investigations during joint U. S.-Canadian-Japanese synoptic oceanographic survey of the North Pacific. Area covered by Canada (47°-55° N. and west to 176° W.) included southern Gulf of Aleutian waters where the oceanographic vessel HMCS. Ste. Therese occupied 85 stations. Observed physical and chemical data at 17 levels (0-1200 m.) are presented (p. 7-100) for each of these stations: depth of sample, temperature, salinity, dissolved oxygen and phosphate, bathythermograms; also station position, date, weather and sea conditions. Interpolated physical and chemical data at standard depths (0–1000 m.) are given (p. 101–146) for the 85 stations. Fishes, sea mammals, and birds seen are listed, and plankton data (0–400 m.) are given for each station (p. 147–70). Bathythermograms and meteorological observations (Aug. 1–Oct. 31) from Ocean Weather Station PAPA (50° N. 145° W.) conclude the report. Copy seen: DN–HO.

44271. CANADA. METEOROLOGI-CAL SERVICE. Climatological summary, Alert, N. W. T., Canada, June 1950— December 1953. Toronto, 1955. 71 p. text map, diagr., graphs, tables.

A compilation of surface and upper air data, with description of the site of this weather station on the northeast Ellesmere coast (82°30′ N. 62°20′ W.), its supply by sea and air, weather observation program, and instruments used. Tables contain summarized surface data for June 1951–Dec. 1953, based on sixhourly observations; daily surface data for each month, May 1950–Dec. 1953, and synoptic observations June 1950–Dec. 1953; summarized upper air data for each 1950–Dec. 1953, based on twice daily observations. Copy seen: DWB.

44272. CANADA. METEOROLOGI-CAL SERVICE. International index numbers and two-letter identifiers for meteorological stations in Canada. Effective June 1st, 1956. Toronto, Apr. 1956. 24 p. Mimeographed. (Its: Circular 2772, NUM-334.)

Lists all meteorological stations (approx. 260) from which synoptic, hourly, pilot balloon and/or rawin reports or radiosonde reports are received. Arctic and subarctic stations are included. For each is given: number, two-letter identifier, latitude and longitude, elevation, classification (type of report). Changes will be issued monthly in the form of Index number changes.

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44273. CANADA. METEOROLOGI-CAL SERVICE. Snow cover data: Eastern Canada, winter 1954/55. Toronto, 1956- in progress. 16 p., 3 tables.

First of a projected series on accumulation of snow on the ground in Ontario, Quebec, and Maritime provinces including Labrador. Summary tabular data show snow depth, Oct.—Apr.; depth and crust conditions, Oct.—Apr., Ontario only; also snow depth and water equivalent in inches for the various snow

courses within river basins of each province. Stations' elevation, latitude and longitude are given. For six in the northern Quebec-Hudson Bay-Hudson Strait region and five in Labrador, snow depth data are given.

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44274. CANADA. METEOROLOGI-CAL SERVICE. Two-letter identifiers for locations in Canada. Fourth edition, effective May 1st, 1956. Toronto, 1956. 20 p. Mimeographed. (*Its*: Circular 2767, NUM-332.)

"Two-letter identifiers are established to meet the requirements of weather services and communications and air traffic control services to the extent that the requirements have a direct bearing on air navigation." The identifiers are assigned to commercial airfields, land and water aerodromes, weather observing stations, radio range stations, aeronautical radio beacon stations, airway reporting points, and are used for all domestic purposes. These stations (approx. 450), including those in arctic and subarctic areas, are listed alphabetically by letter identifiers. Changes will be issued monthly in the form of Bulletins. Copy seen: DWB.

CANADA. METEOROLOGICAL SERV-ICE, see also Boughner, C. C., and others. Climatic summaries . . . III; frost data. 1956. No. 44103.

44275. CANADIAN ARMY JOUR-NAL. Winter training at Churchill. (Canadian Army journal, Apr. 1956. v. 10, no. 2, p. 40–47, illus.)

The training and testing program conducted during the 1955-56 winter at Fort Churchill, northern Manitoba, is described briefly, and several illustrations from training maneuvers are presented. Tests included clothing and new infantry weapons as well as cold weather tests of the NIKE, the land-to-air guided missile developed by the U. S. Army.

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**44276.** CANADIAN AVIATION. Skiwheel combination. (Canadian aviation, Feb. 1950. v. 23, no. 2, p. 40, illus.)

A commercially developed light-airplane ski which can be attached to existing landing gears to form a ski-wheel combination is described and illustrated. The ski may be placed in a fixed position approximately one inch above the rolling radius of the tire, or fitted for up-anddown hydraulic or electrical actuation. The practicability and efficiency of this combination has been proven on military aircraft operating in the Arctic.

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CANADIAN GOOD ROADS ASSOCIATION, see Mathieu, O. Current practice in snow and ice control . . . 1956. No. 46657.

44277. CANADIAN MINING JOUR-NAL. Laporte skimobile. (Canadian mining journal, Aug. 1956. v. 77, no. 8, p. 92, illus.)

Vehicle, manufactured by Canadian Skimobile Mfg. Co. Ltd., can be adapted to summer use by replacing front skis by caterpillar tracks; it can be used in swampy muskeg and mountainous terrain as well as all types of snow and ice conditions. It carries four passengers with luggage, or work load of 1000 lbs. Speed is 20 m. p. h. when breaking road, to 50 m. p. h. on hard-packed snow, with equalizer suspension, caterpillar track sinks sufficiently under various snow depths and conditions to permit adequate traction, while rear skis rise automatically to suspend the main frame and load at surface. Copy seen: DGS.

44278. CANADIAN MINING JOUR-NAL. Windproof clothing. (Canadian mining journal, Aug. 1956. v. 77, no. 8, p. 91, illus.)

Ensolite, an effective insulating material was developed by Dominion Rubber Co. Ltd. and tested by the armed forces. It is plastic and sponge-like, composed of millions of tiny spherical nitrogen gas-filled cells. Unicellular structure accounts for its low water absorption properties and low thermal conductivity. Ensolite provides maximum protection against cold and wet as a lining for jackets, trousers, vests, boots, shoes, snow suits, etc.

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44279. CANADIAN WEEKLY BUL-LETIN. [News notes.] (Canadian weekly bulletin, 1956. v. 11, no. 9-60.)

Current news releases on:

Polar stations: Re-supply of U. S.-Canadian weather stations in the Arctic Islands (Operation NORS-56); success of ice-breaker d'Iberville in reaching Eureka, blocked by ice in 1955 (no. 34, p. 3; no. 40, p. 3-4; no. 44, p. 5); new weather observing and rawinsonde station established at Sachs Harbour, southwest Banks Island, Nov. 1955 (no. 18, p. 4); two modern prefabricated buildings erected at the Permafrost Research Station,

Norman Wells, Mackenzie District (no. 51, no. 4);

International Geophysical Year: Canada's program outlined, with polar stations noted (no. 9, p. 4); surface and upper air weather reports to be made during 1957-1958 (no. 45, p. 4); launching site for rockets will be ready at Fort Churchill, Manitoba, in Oct. 1956; rocket investigations noted (no. 47, p. 6);

Radar lines: excerpts from addresses by R. Campney, Canadian Minister of National Defence, describing planning and building the Mid-Canada Line, a trip to inspect this and the DEW Line, Canadian sovereignty in DEW Line area (no. 25, p. 1-2; no. 53, p. 1-2, 5-6); weather forecasts by Canadian Meteorological Service to assist aircraft flying supplies and personnel to DEW Line (no. 34, p. 4); use of six helicopters based at Knob Lake in airlift to supply Mid-Canada Line in Labrador area (no. 48, p. 4); completion of five months roundthe-clock supply operation for Mid-Canada Line in Hudson-James Bay area, Nov. 1956, during which 40 landing craft transported 35,000 tons of supplies, with loss of only 10 tons (no. 56, p. 6);

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Wildlife and fisheries: To protect nesting grounds of whooping cranes, Canadian Dept. of Transport Apr. 1, 1956 orders pilots not to fly below 2,000 ft. over a certain area of Wood Buffalo Park nor to land (no. 18, p. 4); Great Slave Lake fisheries production in Dec. 1955 (576,437 lbs.) almost doubled that of Dec. 1954 because of early cold season (no. 16, p. 4);

Surveys and expeditions: Survey and mapping program of Canadian Dept. of Mines and Technical Surveys includes eight field parties in Northwest Territories and Yukon, hydrographic surveys in arctic waters, extension of shoran network over Arctic Islands, radar altimeter surveys in the north (no. 34, p. 4); exploratory soil survey made of the Slave River lowlands (3,180,000 acres) in Mackenzie District indicated soils arable for crops suited to climate (no. 37, p. 3); studies in marine resources and biology by E. H. Grainger and H. Andersen frozen in at Igloolik, winter 1955-56 in the fishery research vessel Calanus (no. 11, p. 4); third annual voyage of ice-breaker Labrador to Canadian Arctic waters, where she assisted in supply of DEW Line sites, carried out surveys in Hudson Strait and Foxe Basin, made east-west passage of Fury and Hecla Strait first ship (to do so); her microwave position fixing system is noted (no. 36, p. 3; no. 48, p. 2; no. 49, p. 3);

Military tests: Test of army signals equipment carried on by 31-man team during Jan.-Mar. 1956 in the Churchill region (no. 12, p. 4); tests of standard cars (not modified for arctic conditions) by Capt. H. W. House showed that cars kept in first-class condition with batteries fully charged will start in coldest weather at Churchill (no. 15, p. 4); various types of Canadian and British military vehicles (no tracked vehicles) will be tested at Fort Churchill from Nov. 15, 1956-Mar. 31, 1957, for cold starting and reliability, engine-heating equipment, snow manoeuverability (no. 55, p. 4); successful tests on magnesium snowshoes which are light weight, corrosion-, rot- and moistureproof; they have been recommended for army adoption (no. 15, p. 3; no. 56, p. 3);

Eskimos, Indians: Eskimos and Indians, about one percent of Canadian population, account for one-eighth of all admissions to TB hospitals, young people under 20 most heavily affected; pilot study on rehabilitation of tuberculous Indians being conducted at Charles Camsell Indian Hospital, Edmonton (no. 30, p. 3; no. 42, p. 3); excerpts from address by J. W. Pickersgill, Superintendent of Indian Affairs on future of the Canadian Indian, his status, job opportunities, etc. (no. 36, p. 1-2, 6);

Alaska Highway: Life in the Canadian maintenance camps described (no. 26, p. 3); construction of steel and concrete bridge over Slims River, Yukon, was started in Oct. 1955 (no. 22, p. 4); bridge over arm of Nisutlin Bay at Milepost 803.4 was officially opened May 1956, after two years of construction (no. 29, p. 4); ambulance service provided by Canadian Army between Dawson Creek, British Columbia and the Alaska-Yukon border with two ambulances stationed in Whitehorse and nine at maintenance camps along the highway (no. 22, p. 3);

Northwest Territories and Yukon development: Excerpts from speech by R. G. Robertson, NWT Commissioner, at Jan. 1956 Session of NWT. Council, stressing transport problems, economic condition of native peoples, need for railroad to Great Slave Lake, new Aklavik site, growth of Frobisher Bay (no. 12, p. 1-2); economic conditions discussed by Robertson at NWT. Council Session at new Aklavik site, Sept. 1956, stressing need for expansion in lumber industry, commercial fisheries and mining (no. 44, p.

4-5); description of new coats of arms granted to NWT. and Yukon (no. 23, p. 5); total Yukon hydro-electric power capacity now 2,190 hp. with new 800 hp. plant on McIntyre Creek near White-

horse (no. 10, p. 5);

Miscellaneous: Construction work underway in the Canadian North by Canadian Dept. of Public Works in 1956 amounts to almost \$10 million. Some of the 95 projects include roads and bridges, houses for federal employees, public buildings, wharfs, dredging (no. 43, p. 1-2); Governor-General Massey's 10,000 mile tour of northern Canada and flight over North Pole in late Mar.—Apr. 1956 (no. 20, p. 5; no. 21, p. 2); Hudson Bay Route general cargo imports up more than 50 percent over those of 1955, with total imports amounting to 2,314 tons in 1956 shipping season (no. 60, p. 2).

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CANTAROW, ABRAHAM, 1901—, see Stevens, C. E., and others. The response of the pituitary-thyroid system . . . 1956. No. 48203.

44280. CAPPS, STEPHEN REID, 1881–1949. Some ellipsoidal lavas on Prince William Sound, Alaska. (Washington Academy of Sciences. Journal, Apr. 4,

1914. v. 4, no. 7, p. 169.)
"Near Ellamar, Alaska, there is a series of several thousand feet of diabasic and basaltic lava flows, interbedded at frequent intervals with water-laid sediments. Many of the flows show ellipsoidal, spheroidal, or pillow-shaped forms." It is believed that the ellipsoidal forms of the lavas are due to sub-aqueous cooling.

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44281. CAPPS, STEPHEN REID, 1881–1949. An unusual exposure of a great thrust-fault. (Washington Academy of Sciences. Journal, Apr. 4, 1915, v. 5,

no. 7, p. 252.)

Brief note on a great thrust-fault in the canyon of Nizina River, Alaska, near the mouth of West Fork. The rocks involved are the Nicolai greenstone and the Triassic Chitistone limestone and Mc-Carthy shales. A displacement of about one-half mile has taken place.

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44282. CARDI, LUIGI. Functional changes of the heart during hypothermia; an electrocardiographic and phonocardiographic study. (Angiology, Apr. 1956.

v. 7, no. 2, p. 171-78, illus. table.) 12

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Account of observations on ten dogs made hypothermic to about 24° C. The most pronounced changes were those of rate (decrease of 400 percent) and duration of ventricular systole (increase of 300–400 percent). Conduction time, delay between Q and first sound and duration of each heart sound showed far less marked increases. Copy seen: DLC.

44283. CARLES, LOUIS MARCEL, 1903—. Note pour contribuer à l'étude médicale du climat polaire. (Presse médicale, année 61, Feb. 1953, no. 8, p. 160–61.) Text in French. Title tr.: Contributive note to a medical study of polar climate.

Notes based on two years' sojourn in Greenland (1949-51), regarding physical and mental resistance to the environment especially to cold and darkness, increasing the resistance to these factors, personal differences in resistance, frost-

bite, respiratory disorders, etc.

Copy seen: DNLM.

44284. CARLGREN, OSKAR HEN-RIK, 1865- . Some west American sea anemones. (Washington Academy of Sciences. Journal, Jan. 15, 1936. v. 26, no. 1, p. 16-23, 5 illus.) 8 refs.

Contains descriptions of six species, three new, and one variety. Metridium senile var. fimbriatum from Sitka is included. Copy seen: DLC.

44285. CARLSON, CLARENCE J. Quality changes in frozen dungeness crab. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub.* 1956, p. 76–77.)

Contains a number of suggestions to increase the quality of preserved meat of this crab, including: vacuum packing, and storing at  $-20^{\circ}$  C., flooding with brine preliminary to this process and, exclusion of air.

Copy seen: DGS.

44286. CARLSON, LOREN DANIEL, 1915-, and D. C. PEARL. Effects of temperature and work on metabolism and heat loss in man. (Society for Experimental Biology and Medicine. Proceedings, Feb. 1956. v. 91, no. 2, p. 240-44, illus., tables.) 11 refs.

Account of temperature, heat loss and 0<sub>2</sub>-consumption in men exercising at temperatures of 20° to 10° C. Exercise after cooling was accomplished at a greater energy cost than during cooling. Overall

direct heat loss was less during exercise after cooling. Copy seen: DLC.

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CARLSON, LOREN DANIEL, 1915—, see also Cottle, W., and L. D. Carlson. Chemical regulation of heat . . . cold-adapted rats. 1956. No. 44474.

CARLSON, LOREN DANIEL, 1915—, see also Cottle, M., and L. D. Carlson. Turnover of thyroid hormone in coldexposed rats . . . 1956. No. 44473.

CARLSON, LOREN DANIEL, 1915—, see also Woods, R., and L. D. Carlson. Thyroxine secretion in rats . . . cold. 1956. No. 49004.

CARLSON, LOREN DANIEL, 1915—, see also Young, A. C., and others. Regional heat loss . . . gradient calorimetry. 1955. No. 49026.

44287. CARLSON, WILLIAM SAM-UEL, 1905- . Movement of some Greenland glaciers. (Geological Society of America. Bulletin, Feb. 1939. v. 50, no. 2, p. 239-55, 4 text maps, 2 graphs, 3 tables.) 13 refs.

Contains results of studies made by the author during the Michigan University Greenland Expedition in winter 1930-1931 in the Upernavik Distrikt (72°-74° N. 54°57' W.) on the west coast. The front of Upernaviks Isstrøm, largest and most productive outlet glacier of the region, was mapped in its entirety; studies were made of its rate of movement and compared with those by C. H. Ryder in 1886 and 1887 (No. 15067). Ussings, and Cornell Glaciers and their activity are described briefly. Some glaciers in the district showed a marked retreat within the period 1890-1930, greatest at Upernaviks Isstrøm in the south.

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44288. CARLSSON, KJELL. Axel Hamberg, pionjär i Sarek. (På skidor; Föreningen för skidlöpningens och friluftslivets främjande i Sverige. Årsbok 1953, p. 125–35, illus.) Text in Swedish. *Title tr.:* Axel Hamberg, pioneer in the Sarek.

Notes on his work in these mountains (approx. 67°27′ N. 17°40′ E.) of north Sweden during the period 1895–1930, with extracts from his diaries. Hamberg, 1863–1933, professor of geography at Upsala University, carried out important geological, meteorological, cartographic, ethnological and, especially, glaciological work. The emphasis here is on practical experiences, nature, cooperation with

Lapps, etc.; scientific results are listed as No. 45405. Copy seen: SPRI.

44289. CARNEGIE CORPORATION OF NEW YORK. The white frontier. (*Its*: Quarterly report, July 1956. v. 4, no. 3, p. 1–3, illus.)

A general account of various research fields and programs in the Canadian Arctic and sub-Arctic with comments on the joint program of McGill University and the Arctic Institute of North America. Carnegie funds provide for graduate scholarships in arctic research.

Copy seen: DLC.

44290. CARPENTER, EDMUND SNOW, 1918— North to an enchanted isle. (Varsity graduate, Oct. 1956. v. 4, no. 4, p. 166–67, 189–90, port., sketch map.)

Popular account of author's travels in spring-summer 1955 from Churchill to Melville Peninsula, to Igloolik by dog sledge with an Eskimo family, five weeks at the Eskimo camp of Kieertakjuk, then to Jens Munk and Kaersuk Islands off the coast of Baffin, and up Jorgensen Fjord, northern Baffin. Some comments are made on the Eskimo customs, and viewpoint as revealed in language.

Copy seen: DLC.

44291. CARPENTIER, A. Le Groenland: flore actuelle, flores fossiles. (Revue des questions scientifiques, Brussels, 1948. Année 61, t. 119 (5e série, t. 9), p. 77–88.) 12 refs. Text in French. Title tr.: Greenland: present flora, fossil flora.

Cretaceous and Tertiary plant life in Greenland offers a marked contrast to present vegetation. This area was characterized by trees which are found today only in lower latitudes and which need much milder conditions for growth than exist in Greenland at present. The various hypotheses accounting for great climatic changes are briefly reviewed.

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44292. CARR, J. M. Zoned plagioclases in layered gabbros of the Skaergaard intrusion, East Greenland. (Mineralogical magazine, June 1954. v. 30, no. 225, p. 367-75, illus., graphs, table.) 10 refs.

Contains results of optical work on three analyzed feldspars of gabbros belonging to the main layered series of the Skaergaard intrusion, East Greenland (68°09' N. 31°45' W.). "The work was begun with the intention of providing precise optical data to be used in further defining the relationship between composition and optics. The primary precipitate feldspar crystals, hitherto thought to be devoid of zoning, were found, however, to possess a zoning which prevents the data being used in this way." This zoning and its probable origin are discussed in some detail. Notes on methods of measuring the zoning, and techniques adopted for each method, are appended.

\*\*Copy seen:\*\* DGS.\*\*

44293. CARROLL, L. O. I learned about bush flying the hard way. (Canadian aviation, Aug. 1951. v. 24, no. 8, p. 31-32+, illus.)

Some of the practical flight engineering problems of bush flying in the Arctic are described. Problems include using nose hangars for engine repair and overhaul, float repairs, providing provisions and supplies, aircraft handling on the water, and flight operations from snow.

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**44294.** CARRUTHERS, J. N. Bottle post' and other drifts. (Institute of Navigation, *London*. Journal, July 1956. v. 9, no. 3, p. 261–81, 2 text maps.)

Numerous anecdotes are recounted concerning the use of drift bottles in the open sea for studying ocean currents or conveying messages. The free drift of other objects such as derelict vessels is also discussed. Several arctic drifts are related briefly among others, to indicate distance and direction of drifts, long-term survival of drifting objects, etc.; including the finding of provisions from DeLong's ill-fated Jeannette off the coast of Greenland, the drifts of the Fram and Sedov, and the Soviet drifting scientific stations "North Pole," Evelyn B. Baldwin's distress message in a small container found in 1949 (after 45 years at sea) in ice in the Russian Arctic. A map of some drift bottle journeys in the North Atlantic is shown indicating the drop point and area of recovery, including several deposited off the east coast of Greenland. Copy seen: DLC.

CASOLO, P., see Buongiorno, F., and others. Contributo angiografico . . . dell' ipotermia profonda, 3 . . . venoso portale . . . 1955. No. 44199.

CASS, JOHN TUFTS, 1926—, see Keller, A. S., and J. T. Cass. Petroliferous sand . . . Chignik . . . Lagoon . . . 1956. No. 45933.

44295. CASS, M. H., and others. The induction and control of hypothermia. (Medical journal of Australia, Jan. 1956. 43rd year, v. 1, no. 4, p. 134–39, illus. tables.) 26 refs. Other authors: A. F. A. Harper and R. G. Wylie.

Contains a review and critique of methods of inducing hypothermia, followed by a description of equipment and technique deemed by the author to be the most advantageous. Experiments with sheep and a patient are presented in support; the use of chlorpromazine in preventing shivering is also discussed.

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44296. CASS, W. G. Recent Soviet research on microbiology in the Arctic and other regions. (Nature, *London*, Apr. 7, 1956. v. 177, no. 4510, p. 654-56.)

Includes a review of studies of A. E. Kriss, two of them (No. 40851, 40854) dealing with Arctic Basin localities at depths to more than 4000 m. These investigations concern vertical distributions (densities) of various forms; comparison with conditions in the northwest Pacific; conditions on the bottom; results of culture and other methods; laboratory and field techniques, etc. Copy seen: DLC.

CASSANO, F., see Tarantino, C., and others. Derivazione extrasurrenalica di ormoni corticoidi . . . 1956. No. 48341.

44297. CASWELL, JOHN EDWARDS, 1913- . Arctic frontiers; United States explorations in the far North. Norman, University of Oklahoma Press, 1956. xv, 232 p. ports., illus., maps.

This book for general readers results from the writer's research reported as No. 2930 and 21139 of Arctic Bibliography. United States Government effort in arctic area during that epoch between the loss of Franklin and the attainment of the North Pole is delineated in a chronicle of the expeditions which it sponsored or supported: De Haven's of 1850-51, Kane's 1853-55, Hayes 1860-61, Hall 1860-62 and 1864-69, De Long in the Jeannette 1879-81, Schwatka 1878-80, Greely and Ray in the first International Polar Year. Peary's work is discussed. Cook's claims are appraised. Five expeditions based on Spitsbergen or Franz Josef Land (Wellman and Ziegler) are recounted, and a useful outline is added of government exploration in Alaska, primarily north of the Brooks Range.

In a concluding chapter, an essential continuity of American effort is indicated

for this period; the geographic accomplishment, and contribution to physical and other sciences are characterized. Maps showing the routes of the expeditions and photographs of many of the leaders are also given. Copy seen: DLC.

CATON, WILLIAM L., see McClure, J. H., and W. L. Caton. Rectal temperature . . . newborn . . . apnea. 1956. No. 46522.

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CAVALLERI, L., see Baldini, L., and L. Cavalleri. Su una modificazione dell' onda T... 1956. No. 43848.

44298. CEDERCREUTZ, CARL WIL-HELM, 1893—. Vergleich zwischen der Algenvegetation an den Felsen Südund Mittelfinnlands und an den Felswänden in der alpinen Region Lapplands. (Societas pro fauna et flora fennica. Acta, 1955. v. 72, no. 2, p. 1–21.) 22 refs. Text in German. Title tr.: A comparison between algal vegetation of the cliffs of central and southern Finland and that of the alpine region of Lapland.

Contains a comparative ecological study of algal associations of southern and northern regions of Finland, with lists of typical species for each of 48 stations in various sections of Finnish Lapland and in Torne Lappmark (Abisko) of Swedish Lapland.

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44299. CEDERSTROM, DAGFIN JOHN, 1908- Pumping test at Palmer, Alaska. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 233.)

Five-day pumping test was run early in 1953. Measurements of drawdown in observation wells determined the transmissibility and storage coefficients. The observation well curves suggested presence of a geologic barrier and a source of recharge. Distances to these features were determined, but not their location. Similar tests at Anchorage are noted.

Copy seen: DGS.

44300. CENTKIEWICZ, ALINA, and C. J. CENTKIEWICZ. Zavoevanie Arktiki. Perevod s pol'skogo K. A. Radvillovicha i Cheslava Vol'skogo. Pod red. N. N. Zubova. Moskva, Izd-vo inostrannol lit-ry, 1956. 387 p. plates, ports., maps (1 fold.) Over 75 refs. Text in Russian. Title tr.: The conquest of the Arctic. Translated from Polish by K. A. Radvillovich and Cheslav Vol'skil. N. N. Zubov, editor.

Translation of authors' two-volume work: Na podbój Arktyki, 1953 (No. 34068 of Arctic Bibliography) with minor changes in the text by agreement with the authors. Chapters 28, War over the Arctic, and 29, The assault of the Pole goes on, are contributed to this Russian edition by the authors, and translated by K. A. Radvillovich and Ū. V. Ilinich respectively. The glossary in the Polish edition is omitted; 16 plates of illus. and a fold. map of routes and drifts of several arctic expeditions are added. Notes by K. A. Radvillovich are included.

Copy seen: DLC.

CENTKIEWICZ, CZESŁAW JACEK, 1904– , see Centkiewicz, A., and C. J. Centkiewicz. Zavoevanie Arktiki . . . 1956. No. 44300.

CERRONI, ROSE E., see Harrison, A. P., and R. E. Cerroni. Fallacy . . . "crushing death" . . . in frozen bacterial suspensions. 1956. No. 45456.

44301. CHACE, FENNER ALBERT, 1908—. The grass shrimps of the genus Hippolyte from the west coast of North America. (Washington Academy of Sciences. Journal, Jan. 18, 1951. v. 41, no. 1, p. 35–39, illus.) 6 refs.

Contains descriptions of two species of this crustacean genus, one of which, H. clarki n. sp., ranges from Sitka, Alaska, to Puget Sound. A table of distinguishing characters of H. californiensis and H. clarki is appended.

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CHAHOVITCH, X., see Marinkovitch, V., and others. La répartition du radiophosphore . . . organes du rat . . . hypothermie . . . 1956. No. 46623.

44302. CHALYK, D. A., and A. K. VOLKOV. Sudostroenie na VsesoûznoI promyshlennof vystavke 1956 g. (Sudostroenie, Sept. 1956. god 22, no. 9, p. 25–36, illus.) Text in Russian. Title tr.: Ship-building at the All-Union Industrial Exhibition.

Description of the more important ship-building exhibits, including models of a 1272-ton whaler and a 43,000-ton floating base for a whaling fleet, also model of an atomic ice-breaker then under construction and replicas of its one-man and two-man cabins.

Copy seen: DLC.

44303. CHAMBERLIN, RALPH VARY, 1879- . Occurrence of a Japanese cen-

tiped in Alaska. (Entomological news, Oct. 1952. v. 63, no. 8, p. 209.)

Contains a brief note on three chilopods collected by Dr. J. S. Stanford in McKinley Park, Alaska, in July 1948. These are Alaskobius josephus, Arctogeophilus glacialis and Escaryus japonicus. The first two were previoulsy reported from Alaska, but the latter only from Japan. "The point of origin of this species is, of course, an open question for migration may have occurred in either direction."

Copy seen: DA.

**44304.** CHAMBERS, ALFRED H., and G. G. LUCCHINA. Reversible frequency-selective reduction by cold of round window potentials. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 33.)

Application of cold to the cochlea anteromedial to the round window caused reduction of 50 percent in potentials evoked by tones of 500 and 1000 cycles; potentials caused by 3000 or 4000 cycles were reduced by less than 10 percent.

Copy seen: DLC.

44305. CHAMBERS, JACK V., and P. C. DALRYMPLE. Color regions of the world. Natick, Mass., Nov. 1956. iv, 56 p. tables. (U. S. Quartermaster Corps. Environmental Protection Research Division. Technical report EP-37.) 15 refs.

Contains a generalized world-wide summary of the natural landscape colors occurring in each month designed to accompany the World color regions atlas, required for a successful camouflage program. An analysis is made of the maps in the atlas, summarizing in tabular and textual form the information contained, and explaining the basis on which the colors and regions were determined. White areas are those totally under snow, white sand, or salt flats; and partly white areas, those with a seasonal snow cover. Together, these areas average 18 percent of the world land area. In Jan., 17.5 million sq. mi. of land in the Northern Hemisphere is white; by July and Aug., only one million sq. mi. of snow cover exists, and nearly all of this in Greenland. An analysis of background color types for areas with seasonal snow cover is also given. Copy seen: CaMAI.

**44306.** CHAMPION, A. Øksfjord Peninsula. (Alpine journal, May 1956. v. 61, no. 292, p. 204–205, fold. map.)

Contains description of mountaineering during Aug.-Sept. 1955 by a British party of five, including the author. Mountains of this peninsula west of Øksfjord (70°12′ N. 22°18′ E.) range from 2,500 to 4,000 ft. and are dominated by three icecaps. Several first ascents were made, also observations of Øksfjordjökelen and its north-flowing glaciers. Copy seen: DLC.

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44307. CHANG, MIN CHUEH. Revival of newborn mammals after being kept in ice for a few hours. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 33-34.)

Summary of experiments with newborn rats, rabbits and ferrets, kept up to 24 hrs. on ice. Revival or resumption of heartbeat varied considerably between individuals and species but decreased in general with the duration of cold exposure.

\*\*Copy seen: DLC.\*\*

CHANTELOU, JENS FREDERIK, 1893-, see Denmark. Udenrigsministeriet. Greenland. 1956. No. 44601.

44308. CHAPIN, EDWARD ALBERT, 1894 - On some Coccinellidae (Coleoptera) from Newfoundland and Nova Scotia. (Psyche, Dec. 1955. v. 62, no. 4, p. 152-56.) Ref.

Contains a description of Hyperaspis novascotiae n. sp. from Nova Scotia, and distributional data on 18 other coccinelids. C. undecimpunctata, reported earlier from Alaska, is excluded from the list of Alaskan species; dissection of the specimens showed them to be C. difficilis (range: from Colorado, Utah and Nevada northward to Rampart House, Alaska).

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44309. CHAPLIN, H., Jr., and others. Preservation of red cells at -79 C. (Clinical science, 1956. v. 15, no. 1, p. 27-39, illus., tables.) 17 refs. Other authors: H. Crawford, M. Cutbush and P. L. Mollison.

Red cells mixed with glycerol to a final concentration of 30 percent, have been stored for periods up to 21 months at  $-79^{\circ}$  C. About 90 percent of the original number of cells were recovered for transfusion and showed a post-transfusion survival of the order of 80 percent. There was no evidence that post-transfusion survival diminished with the duration of storage.

\*\*Copy seen: DNLM.\*\*

44310. CHAPLYGIN, ALEKSANDR VLADIMIROVICH, d. 1953. Voprosy mezhbasseľnovykh vodokhozíálstvennykh svíazeľ. Moskva, Izd-vo Akademii nauk

SSSR, 1956. 144 p. fold. maps, tables, diagrs. (Akademiña nauk SSSR. Sovet po izuchenifu proizvoditel'nykh sil. Sektor gidroènergeticheskikh resursov.) 27 refs. Text in Russian. *Title tr.:* Problems in inter-basin water-economy relations.

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Posthumously published. A study of the technical and economic conditions of hydro-electric development projects to be completed by 1965, also of a projected system of interconnecting river basins to unify Soviet water resources for a major economic expansion. Special attention is given to the direct and indirect utilization of the water resources of the northern regions: the Severnaya Dvina, Pechora, Usa, Ob', Irtysh, Yenisey, and their tributaries. Direct utilization, for example, involves raising the level of the Ob' locally by dam construction and redirecting part of the water masses into the Volga, or, similarly, redirecting from the Yenisey into the upper Ob'. This redirection can be done through a system of specially built channels and interconnecting streams, with or without the aid of pumping stations. The technical and economic aspects of pumping are ana-Natural conditions and technical methods for the inter-basin connections are described in detail for different river systems, including the Ob' and Yenisey (p. 72-113); and an economic evaluation of these projects is added (p. 114-34). Indirect utilization of water power involves construction of local hydro-electric plants and transmission of electric energy by wire to industrial centers in the Ural, Kuznetsk, or other regions. Seasonal variations in flow and temperature are given for different river basins of the North. Appendices show (1) present and proposed installations and inter-connecting systems (fold. map), and fold. longitudinal profiles of water levels of various river basins. An introductory sketch of the late author is contributed by B. I. Nikitin. Copy seen: DLC.

44311. CHAPMAN, ROBERT MILLS, 1918—, and others. Geological and geographical research in Alaska's future development, a round table discussion. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 176–78.) Other authors: A. H. Mick, R. C. Ragle, K. H. Stone, and C. W. Wilson.

Objects of the discussion were an enumeration of research topics for young scientists and "self-appraisal to help the more mature analysts understand better the goals, relations, and significance of their work." Twenty-five major needs for increased geological and geographical research are listed. *Copy seen:* DGS.

44312. CHAPMAN, SYDNEY, 1888—. The IGY auroral programme. (CSAGI

Arctic Conference . . . pub. in: I. U. G. G. news letter, Sept. 1956. 5° année, no. 15, p. 380–84.)

The long-term objectives of the program are noted, and the immediate objectives are outlined as obtaining a synoptic picture by photographic or visual methods, warning services, radio and radar detection, and rocket studies,

etc.

44313. CHAPMAN, SYDNEY, 1888—. The International Geophysical Year, 1957–1958. (Polar record, Jan. 1956. v. 8, no. 52, p. 33–35.)

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Contains a survey of the main objectives during this "year" in meteorology, geomagnetism, aurora, airglow and zodiacal light, cosmic rays, solar observations, ionospheric investigations, longitudes and latitudes, glaciology, oceanography, seismic and gravity measurement, rocket program.

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44314. CHARD, CHESTER S., 1915—. The oldest sites of northeast Siberia. (American antiquity, Apr. 1956. v. 21, no. 4, p. 405–409, illus.)

Surveys the recent excavations of prehistoric sites conducted, mainly by A. P.
Okladnikov, in the lower Lena basin and
east of it. The neolithic sites at Lake
Uolba, Cape Obukh, Lake Syalakh,
Chokurovka and on Chukotsk Peninsula
are described, and the artifacts compared
with similar finds mostly in the Lake
Baykal region. Okladnikov's cultureclassifications and chronological datings
are given.

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44315. CHARLES, D'ARCY H. Harbours on the west coast of Ungava Bay. Ottawa, Canadian Hydrographic Service, May 1956. 17 p. fold. chart. Mimeographed.

Description of four harbors and potential harbors, based on surveys carried out by the Canadan Hydrographic Service during navigation seasons 1953 through 1955: Diana Bay on the south shore of Hudson Strait west of Cape Hopes Advance (60°47′ N. 69°50′ W.); Payne Bay (60° N. 69°55′ W.); Hopes Advance Bay (approx. 59° N. 69°55′ W.)

south of Payne Bay and completely unsurveyed until 1955; Leaf Bay and Basin (i. e., Leaf Lake, 58°45′ N. 69°45′ W.). For each of these, the environs are described, navigation aids (if any), approaches, anchorages, tides and currents, ice conditions, etc., are noted, and its suitability as a harbor is stated.

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44316. CHATELAIN, EDWARD F. Distribution and abundance of moose in Alaska. (In: Alaskan Science Conference . . 1952. Proceedings, pub. 1954, p. 134–36.) 2 refs.

Information is presented on the value of moose as a game animal; factors determining population densities; its distribution in Southeast Alaska, the Upper Copper River, Bristol Bay, the Arctic Slope and other areas.

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CHATFIELD, PAUL O., see Lyman, C. P., and P. O. Chatfield. Physiology of hibernation . . . mammals. 1956. No. 46502.

44317. CHEBOTAREV, A. D. Materialy k izucheniû Losevykh i Sal'noï tundr k SZ i Z ot Monche Tundry. (In: Fersman, A. E. Za poliârnym krugom, 1932. p. 52–56, illus., map.) Text in Russian. Title tr.: Materials for the study of Losevyye and Sal'naya Tundras, NW and W from Moncha Tundra.

Geographical and geological description of Losevyye Tundra, based on the work of a special team in 1932. Losevyye, a continuation of Volch'ya Tundra, consists of a flat hill, not above 500 m. in height, composed by gabbronorite rocks. A vein of sulphides of undertermined industrial value was discovered. A reconnaissance westward to the eastern and southern slopes of Sal'naya Tundra was made to plan the further investigations.

44318. CHEKANOVSKAĪA, O. V. K faune maloshchetinkovykh chervel basselna Enisefā; chast' I. (Zoologicheskil zhurnal, May 1956. v. 35, vyp. 5, p. 657-66, 4 illus., table) 41 refs. Text in Russian. *Title tr.:* A contribution to the Oligochaeta fauna of the Yenisey River basin; pt. I.

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Contains a systematic annotated list of 21 species collected from the Yenisey during the years 1941, 1946, 1948, 1949, 1952. Bythonomus mirus n. sp. is described from the lower Yenisey. Two

components of this fauna, palaeoarctic and Lake Baykal groups, are noted and discussed. **Copy seen:** DLC.

44319. CHEKHOV, I. Pamíatnye vstrechi v Arkhangel'ske; iz bloknota nashego korrespondenta. (Klub, Jan. 1956. god 5, no. 1, p. 18–19, illus.) Text in Russian. *Title tr.:* Memorable encounters in Arkhangel'sk; from the notebook of our correspondent.

Visits to clubs of various industrial enterprises in and near Arkhangel'sk; propaganda lectures, reports on production, entertainment. Copy seen: DLC.

44320. CHEKHOV, I. Segodnı̂a tantsıy. (Klub, Mar. 1956. god 5, no. 3, p. 24.) Text in Russian. *Title tr.:* Today dancing.

Criticizes lack of cultural activities at the club of the Arkhangel'sk industrial plant "Krasnaıa Kuznitsa."

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44321. CHEKOTILLO, ANDREĬ MAR-KOVICH, 1886— . Merzlotovedenie za rubezhom k 1955 godu; literaturnyī obzor. (In: Akademiíā nauk SSSR. Institut merzlotovedeniíā. Materialy k osnovam ucheniíā o merzlykh zonakh zemnoī kory, 1956. vyp. 3, p. 186–229, table, illus., map.) 257 refs. Text in Russian. Title tr.: Permafrostology abroad to 1955; a review of the literature.

Review article, based on studies of reports published outside the U.S.S.R.; such studies were started in the Institute of Permafrostology before World War II and continued systematically since 1945. The United States and U. S. S. R. are noted as countries where permafrostology and the solution of engineering problems associated with frozen ground have reached wide development. Considerable attention is given to reports on construction work in the Arctic: highways, railroads, airfields, buildings, dwellings, etc. The foundations of the Thule Air Base (Greenland) and the reinforced concrete protection of underground piping are described with illus. (p. 202-205). leading role in permafrost research is noted for the U.S. Army Corps of Engineers and for its well-equipped research A large network establishment. institutions, among them the U.S. Highways Research Board, University of Minnesota, Purdue University, Canadian National Research Council, are mentioned as well as individual scientists, in connection with specific problems. Permafrost terminology is analyzed and 31 specific terms are given (p. 214-15) in English with Russian equivalents. Appended is a list of the examined reports, etc., predominantly American. Permafrost distribution in the Northern Hemisphere is mapped (p. 189). Copy seen: DLC.

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44322. CHEKOTILLO, ANDREÍ MAR-KOVICH, 1886— . Promerzanie pochvy v kholodnye i teplye zimy. (In: Voprosy geologii Azii, t. 2, 1955. p. 543-64, tables, graphs.) 4 refs. Text in Russian. Title tr.: Soil freezing in cold and warm winters.

"Variations in the depth of soil freezing in European Russia are examined for the period 1893-1952, and the effects of snow cover and general winter conditions on air temperature and depth of frost penetration are discussed. The most effective snow cover was observed in the northern, northeastern, and central regions where the continuous snow cover was frequently deep. Moderate soil freezing and very low air temperatures were characteristics of an early, deep snow cover. Moderate air temperatures were usually observed when the cover was either thin or deep but late in forming. Deepest soil freezing in cold winters occurred in southern areas where the snow cover was usually intermittent."—SIPRE. Copy seen: DLC.

CHEKOTILLO, ANDREÏ MARKO-VICH, 1886—, see also Akademiia nauk SSSR. Institut geografii. Voprosy izuchenia snega... 1955. No. 43525.

CHEKOTILLO, ANDREĬ MARKO-VICH, 1886–, see also Stefansson, V. Natural cold storage. 1956. No. 48185.

44323. CHEKUOLIS, A. 16,000 kilometrov na rybolovnykh sudakh. (Vokrug sveta, Feb.-Mar. 1956, no. 2, p. 20-24; no. 3, p. 26-30, illus.) Text in Russian. *Title tr.:* 16,000 kilometers on fishing vessels.

In 1955 (?) 50 fishing vessels, among them 34 small (52-ton) seiners, were transferred from the Baltic Sea to Petropavlovsk-on-Kamchatka via Northern Sea Route. The author, a journalist who joined the expedition as a sailor, describes the trip: an exceptionally easy crossing of the Kara Sea, the ice-breaker Sibirūkov's aid rounding Cape Chelyuskin, difficult passage of Long Strait under ice-breaker escort (Vūcheslav Molotov and Anastas

Mikolan), and the arrival at Avachinskaya Bay. Visits at Port Dikson, Tiksi and a school at Urelik (approx. 64°25′ N. 172°50′ W.) are noted.

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44324. CHEMEZOV, VASILIĪ NAZA-ROVICH. Russkie uchenye v izuchenii Ākutii. (In: Akademiā nauk SSSI. Ākutskif filial. Institut fazyka, literatury i istorii. Vedushchafa rol' russkogo naroda . . ., 1955. p. 199–215.) 7 refs. Text in Russian. Title tr.: The contribution of Russian scientists to the study of Yakutia.

Describes the exploration of Yakutia in the 17th-19th centuries giving data on some expeditions and explorers, geographic discoveries, etc. Expeditions of the post-Revolutionary period are noted, the work of scientists (predominantly Russian) is discussed in the fields of agriculture, animal husbandry, economy, biology, geology, meteorology, ichthyology, agronomy, geomorphology, mineralogy, medicine, ethnography, history, linguistics, etc. The importance of their contributions to the development of Yakutia is stressed.

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44325. CHENTSOV, R. A. Izuchenie fiziki nizkikh temperatur. (Akademia nauk SSSR. Vestnik, Oct. 1956. god 26, no. 10, p. 99–102.) Text in Russian. Title tr.: Study of physics of low temperatures.

Reviews problems discussed in the papers presented at the Second All-Union Conference in Leningrad during June 24–28, 1956. Theory of Fermi liquid is applied by Academician L. D. Landau in the study of normal and isotopic liquid helium (He3 He4) as an example of the quantum liquids, remaining liquid at temperature of absolute zero. The results of further theoretical studies on liquid helium and low temperature effects were reported by other investigators: "zero sound", variations in magnetic susceptibility, theory of ultra-electric conduction, effect of magnetic field on resistance of metals at super low temperatures, magnetic resonance, etc. Academician P. L. Kapitsa who participated in the discussion of many of the papers, predicted in his final remarks that the physics of low temperatures will become widely adopted in studies of the electric, mechanical, optical and other properties of substances.

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CHEPURNOV, V. S., see Pravdin, I. F., and V. S. Chepurnov. Akademik Lev Semenovich Berg, 1876-1950 gg. 1956. No. 47443.

CHERDANTSEV, GLEB NIKIFORO-VICH, 1885—, see Preobrazhenskii, A. I. Gleb Nikiforovich Cherdantsev . . . 1956. No. 47449.

44326. CHEREEVA, S. N. Ispol'zovanie vegetativnoľ gibridizatšii v selektšii kartofelia na morozostoľkosť. (Agrobiologia, Jan.–Feb. 1956, no. 1 (97), p. 83–85, table.) 5 refs. Text in Russian. *Title tr.:* Utilization of vegetative hybridization in breeding frost-resistant potato varieties.

Reports work done by the author in the course of several years on the Igarka Agricultural Experimental Station. Results are tabulated from experimental growing of vegetative hybrids in 1954.

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CHEREMNYKH, G. I., see Anson, A. A., and others. Ekonomicheskafa geografifa Sibiri . . . 1928. No. 43687.

44327. CHERKASOV, I. I. Mekhanieheskie svolstva gruntovykh osnovaniI pri deformatšii vdavlivanitā. (In: Moskva. Avtomobil'no-dorozhnyI institut. Opredelenie modultā deformatšii gruntov, 1955. p. 22–28, illus., graphs.) Text in Russian. Title tr.: Mechanical properties of soil foundations deforming under compression.

Laboratory and field experiments on the determination of mechanical properties of sand, sandy loam, and argillaceous soil of different densities and wetness are described. The deformation data are mathematically analyzed on the basis of the elasticity theory for application to the construction of building and other foundations and road beds.

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44328. CHERNENKO, M. B. Lavrentif Alekseevich Zagoskin; ocherk zhizni i defatel'nosti. (In: Zagoskin, L. A. Puteshestvifa i issledovanifa, 1956, p. 5–40, illus., map.) Approx. 100 refs. Text in Russian. Title tr.: L. A. Zagoskin; outline of his life and activities.

Biography of this Russian sailor and explorer of Alaska, based on extensive literature and on unpublished materials. His family life, education, service in the Russian Navy are outlined. Account is given of his journey via Yakutsk and Okhotsk to Alaska in 1839; his voyages for

the Russian-American Company, his main expedition to Alaska, May 1842–Sept. 1844 and return to St. Petersburg in 1845. His publications are noted, and his activities at home are sketched. His life spanned most of the 19th century: 1808–1890. The importance of Zagoskin's geographic and ethnographic exploration in Alaska is stressed (p. 31–34), and a sketch map (p. 27) of his travel routes there is included. G. A. Agranat participated in preparation of this paper.

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CHERNENKO, M. B., see also Belov, M. I. Arkticheskoe moreplavanie . . . 1956. No. 43944.

CHERNENKO, M. B., ed., see also Zagoskin, L. A. Puteshestvifa . . . 1842– 1844 . . . . 1956. No. 49031.

CHERNETSOV, VASERII NIKOLAE-VICH, 1905—, see Prokof'eva, E. D. Khanty i mansi. 1956. No. 47463.

44329. CHERNEY, IL'Â. V Sibir' na trudovye podvigi. (Sovetskiĭ voin, Aug. 1956. god 38, no. 15, p. 25, illus.) Text in Russian. *Title tr.:* To Siberia for labor exploits.

Sketch of Soviet youth coming to Siberia to work for the economic development of the country: the Tungusskiy Coal Basin, largest in the world, the harnessing of the Angara, Yenisey and Ob' Rivers, and construction of "world's biggest" hydro-electric power stations, etc. Copy seen: DLC.

CHERNÍAKOV, ZAKHARIĬ EFIMO-VICH, 1900-, see Leningrad. Institut narodov Severa. IAzyki i pis'mennost' narodov Severa. . . . 1937. No. 46311.

CHERNÎAVSKIÎ, P. A., see Urazovskiî, S. S. and P. A. Chernîavskiî. Ob osobennostîakh . . . vîazkosti pereokhlazhdennykh zhidkosteĭ. 1956. No. 48652.

44330. CHERNIKOV, L. A. Primenenie apatita v chernof metallurgii. (*In:* Khibinskie apatity, 1933. t. 6, p. 65–67, table.) Text in Russian. *Title tr.:* The use of apatite in ferrous metallurgy.

Enrichment of low phosphorus iron ores by the introduction of apatite in raw materials of the Thomas process is discussed. Characteristics of the blow furnace of the Kerch Metallurgical Works are given for computation of various compositions of phosphorus cast iron. The

results on experimental castings with different ores are discussed in detail. **Copy seen:** DGS.

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CHERNOV, ALEKSANDR ALEKSAN-PROVICH, 1877–, see Pervukhina, A. E. Solıânye istochniki . . . 1940. No. 47311.

44331. CHERNOV, G. A. Arkheologicheskie nakhodki v tsentral'nof chasti Bol'shezemel'skof tundry. (Akademiñ nauk SSR. Komissiñ po izucheniñ chetvertichnogo perioda. Trudy, 1948. t. 7, vyp. 1, p. 55–122, illus. maps, tables.) 36 refs. Text in Russian. Title tr.: Archeological finds in the central part of the Bol'shezemel'skaya Tundra.

Describes 28 archeological sites explored by the author in the summer of 1939 during a geological survey conducted by the Northern geological administration in the Kolva River basin, right A concise geotributary to the Usa. morphic and geological account of the region (approx. 67° N. 59° E.) is in-A detailed inventory and description of the flints, potsherds (with drawings and photos), bronze, brass and iron artifacts is given, and the lack of bone implements noted. No agricultural tools were discovered; a hunting and fishing economy is suggested by the flint The small size of the flints is ascribed not to a microlithic culture level but to the absence of large flint-bearing deposits and the resulting use of brittle flint nuclei, washed up by the rivers, for the manufacture of implements. The striking similarity of the Kolva River flint and pottery finds to those made in the White Sea coastal region (cf. No. 32126) is stressed, and a dating from late stone age (for sites lacking potsherd remains) to late bronze age (for those containing advanced forms of hole-comb pottery) is suggested. The iron and brass finds seem accidental and do not belong to the original river and lake settlements. Author's earlier report on these sites was listed as No. 28516. Copy seen: DLC.

4432. CHERNOV, G. A. Novye arkheologicheskie nakhodki v Pechorskom basselne. (Akademiß nauk SSSR. Institut istorii material'noï kul'tury. Kratkie soobshcheniß, 1956. vyp. 64, p. 104–115, illus., maps.) 23 refs. Text in Russian. *Title tr.:* New archeological finds in the Pechora basin.

Previous excavations in the Bol'shezemel'skaya Tundra region are noted and account is given of the author's flint and potsherd finds in stone age settlements along the lower Pechora (2), Laya (3), Kozhva (1), and Ukhta (2) Rivers. Prevailing theory, that Bol'shezemel'skaya Tundra was peopled from the east (Ural and lower Ob') is challenged. A south-north migration across narrow river divides is suggested: a close resemblance is seen between flint flaking and ceramic techniques in Bol'shezemel'skaya Tundra and archeological finds along the Kama and Vishera Rivers, south of the Pechora Basin.

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4433. CHERSKIĬ, N. V. Zadachi nauchnykh issledovaniĭ v Ākutskoī ASSR; sessifā Ākutskogo filiala Akademii nauk SSSR. (Akademifā nauk SSSR. Vestnik, July 1956. v. 26, no. 7, p. 87–89.) Text in Russian. *Title tr.:* Objectives of scientific explorations in the Yakut A. S. S. R.; session of the Yakut Branch of the Academy of Sciences of the U. S. S. R.

This session, Apr. 10–13, 1956, was attended by some 200 representatives of various institutes and organizations. Main papers delivered at the plenary meeting and to the geological, physical and biological sections are noted: the resolution passed by the session is summarized.

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4434. CHEVILLARD, LOUIS, and others. Activité physiologique du rat refroidi; effets cardiovasculaires de l'adrénaline. (Société de Biologie, Paris. Comptes rendus, 1955. t. 149, no. 21–22, p. 1925–28, illus.) 16 refs. Text in French. Other authors: H. Giono and V. Popovié. Title tr.: Physiological activity of the hypothermic rat; cardiovascular effects of adrenalin.

Account of experiments with rats made hypothermic through confinement without anesthesia. Records were made at body temperatures of 17° and 11° during cooling, and at 11° and 38° during rewarming. The organism preserved qualitatively its vascular reactivity towards adrenalin during the period of deep hypothermia. Copy seen: DNLM.

44335. CHEVILLARD, LOUIS, and others. Variations de la sensibilité douloureuse au cours de l'hypothermie profonde. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 7, p. 1368-71, illus.) 11 refs. Text in

French. Other authors: M. C. Arnal and H. Giono. Title tr.: Variations in sensitivity to pain during deep hypothermia.

Account of experiments with mice made hypothermic to 13° C. and exposed to thermal or electric irritants. There was a decline in sensitivity towards these stimuli and a period of insensitivity during deep hypothermia. Upon spontaneous rewarming a phase of hypersensitivity was often noted.

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CHEVILLARD, LOUIS, see also Giono, H., and L. Chevillard. Influence . . . froid . . . cobaye. 1956. No. 45123.

CHÈVREMONT, M., see Chèvremont-Comhaire, S., and M. Chèvremont. Action de températures . . . la mitose. 1956. No. 44336.

44336. CHÈVREMONT-COMHAIRE, S., and M. CHÈVREMONT. Action de températures subnormales suivies de réchauffement sur l'activité mitotique en culture de tissus; contribution à l'étude de la préparation à la mitose. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 5, p. 1046-49, illus, table.) 4 refs. Text in French. Title tr.: Action of sub-normal temperatures followed by rewarming on the mitotic activity of tissue cultures; contribution to the study of preparation to mitosis.

Cultures of embryonic chick muscle or sub-cutaneous connective tissue exposed for 24 hrs. to relatively low temperature (16°-20° C.) and then returned to normal (37° C.) environment showed within 2-3 hrs. a sharp and pronounced rise in mitoses, with a specially high number of prophases.

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44337. CHEYMOL, JEAN, and C. LE-VASSORT. Action hypothermisante des protovératrines A et B. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 5, p. 919–22, illus., table.) 5 refs. Text in French. Title tr.: Temperature lowering action of protoveratrines A and B.

Contains information on the physical and chemical properties of the two alkaloids; toxicity to laboratory animals; and temperature lowering effects in rabbits. The B form proved more toxic and less temperature reducing in rabbits than protoveratrine. A. Hence the latter was chosen for experimental purposes.

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44338. CHIASSON, ROBERT B. Dental abnormalities of the Alaskan fur seal. (Journal of mammalogy, Nov. 1955. v. 36, no. 4, p. 562-64, illus.)

Description of dental irregularities found in six out of 38 female skulls of this species (Callorhinus ursinus). The weak dentition of pinnipeds in general is given as the main reason for missing or "supernumary" teeth and frequent anomalies.

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4439. CHILIKINA, E. Promysel belki. (Okhota i okhotnich'e knoziaistvo, Oct. 1956, no. 10, p. 11–12.) Text in Russian. *Title tr.:* Hunting the squirrel.

Brief account of this fur-bearer and its hunting in U. S. S. R.: areas of occurrence; food, reproduction, diseases; migration caused by climatic conditions and by shortage of food; seasons and methods of hunting and trapping. Hunting squirrel without dog in Yakutia is noted.

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44340. CHILINGARÎAN, T. KH. Obsledovanie obshirnykh lesnykh territoril metodom aërotaksafsii. (Geograficheskoe obshchestvo SSSR. Geograficheskii sbornik, 1955, no. 5, Geograficheskie voprosy lesnogo khozîâlstva, p. 165–71.) Text in Russian. Title tr.: Aerial mensuration of large forest areas.

The forests in the U. S. S. R. cover over a billion hectares, equivalent to 27 percent of the forest area of the world. Since 1935, aircraft have been used extensively in surveying forests. The visual method air survey has been gradually superseded since 1948 by aerial mensuration, and the latter is based entirely on air photographs without any visual mapping. Forest surveys are mentioned (p. 70) in the lower reaches of the Ob' River and the middle Vilvuy basin.

Copy seen: DLC.

CHILLCOTT, J. G., see Cody, W. J., and J. G. Chillcott. Plant collections . . . Matthews and Muskox Lakes . . . 1956. No. 44404.

**44341.** CHIPMAN, PAUL. The living stone. (Beaver, Spring 1956. Outfit 286, p. 12–19, 17 illus.)

Contains 13 photographs of stone carvings by Eskimos of the Canadian Eastern Arctic, part of the Hudson's Bay Company collection; also four sketches from Eskimo engravings on walrus tusks; illus of carving knife and bow drill are included.

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44342. CHIRIGIN, N. I. On the concentration of calcium carbonate in the waters of the polar basin. (Akademia nauk SSSR. Comptes rendus (Doklady),

1938. v. 19, no. 8, p. 633-35.)

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The interchange and concentration of CaCO<sub>3</sub> in different water layers are described. The upper and deep water layers of the Arctic Basin are rich in CaCO<sub>3</sub>, though not saturated. The excess accumulated in the Basin is carried away partly by currents, particularly in ice floes, with the ice having a relative content as great as 1,000 times that of the water.

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CHIRKOVA, ELENA FEDO-44343. ROVNA. Materialy k permskol flore poberezh'ia Karskogo moria, Eniseĭskogo zaliva i zapadnoĭ chasti poluostrova Talmyra voobshche; basseln r. Pasiny. (Moskovskoe obshchestvo ispytateleľ pri-Bûlleten', 1941. t. 19, god 112. p. 75-101, illus. tables.) 21 refs. in Russian and French. Title tr.: Contribution to the Permian flora of the coast of the Kara Sea, the Yenisev Gulf and the western part of the Taymyr Peninsula in general; basin of the Pyasina River.

Following an introduction on earlier work and the general character of this flora, the author presents descriptions of fossil ferns and related plants from this area. Fifteen species are dealt with, eleven of them new, and their occurrence discussed.

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44344. CHIRKOVA, ELENA FEDO-ROVNA, and M. D. ZALESSKII. Sur deux nouveaux végétaux permiens. (Société géologique de France. Bulletin, 1938. sér. 5, t. 8, fasc. 3–4, p. 207–210, 2 illus.) Text in French. Title tr.: On two new Permian plants.

Describes fossil fern-like plants found on the coast of Yeniseyskiy Zaliv, Karskoye More (72°30' N. 80° E.): Callipteris karskiana n. sp., near Cape Makarevich, and Chiropteris incisa n. sp., on the Mikhaylovka River.

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44345. CHIRVINSKIĬ, PETR NIKO-LAEVICH, 1880–1949. Nekotorye soobrazheniâ o primenenii apatitovol rudy v metallurgii. (*In:* Khibinskie apatity, 1933. t. 6, p. 67–69.) Text in Russian. *Title tr.:* Some considerations on the use of apatite ore in metallurgy.

Study of the thermal system of apatitenepheline is outlined to clarify the genesis of these rocks and subsequent processes

differentiation from the alkaline magma. Importance of thermal, microscopic and chemical analyses of the slag is discussed, particularly for indication of sulfur and arsenic and their separation from processed materials. Importance of apatite in the metallurgical industry is noted in view of the possible use of slags (thermophosphates), enriched metallurgically by apatite, as fertilizer. Practical problems in extracting some rare materials, such as titanium, thorium, and cerium group, from the apatite are briefly outlined. Copy seen: DGS.

44346. CHIRVINSKIĬ, PETR NIKO-LAEVICH, 1880–1949. Petrograficheskaſakharakteristika zheleznorudnogo kompleksa Kol'skogo fiorda. (*In*: Khibinskie apatity, 1933. t. 6, p. 192–95, 3 tables.) Text in Russian. *Title tr.*: Petrographic characteristics of the iron ore complex of Kola Fiord.

Petrographic characteristics of materials collected in 1933 are described in detail, with indication of the predominant types, their genesis, and concentration of related minerals. Average mineralogical composition of amphibolites and hornblende-magnetite quartzites are tabulated. The local iron ores are composed about equally (by weight) of hornblende, quartz and magnetic iron ore. \*\*Copy seen: DGS.\*\*

44347. CHISHOLM, EDWARD O. The Yukon Territory, mecca for base metals. (Canadian mining journal, Apr. 1956. v. 77, no. 4, p. 63-68, illus., text

map, table.)

Contains survey of transportation (primarily roads), population, climate, communications, and industry in the Yukon; then a review by area of base metal discoveries made during 1952-1955, including a few areas in British Columbia. Also discussed are exploration methods, magnetometer, electro-magnetic, resistivity, self-potential, gravimeter, and geochemical surveys; packsack drilling equipment; exploration costs, with itemized table.

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44348. CHISTIAKOV, F. M., and Z. Z. BOCHAROVA. Vlifanie nizkikh temperatur na razvitie mikroorganizmov, 4; vlifanie nizkikh temperatur na razvitie plesnevykh gribkov. (Mikrobiologifa, 1938. t. 7, vyp. 7, p. 838–42, tables.) Text in Russian. Summary in English. Title tr.: Influence of low temperatures upon the development of microorganisms,

4; influence of low temperatures upon the

development of molds.

Account of investigation with about a dozen molds reared at temperatures of  $+20^{\circ}$  to  $-18^{\circ}$  C. on several types of substrates. The rate of growth was found to depend on temperature and on the nature of the culture medium, the various species behaving differently towards both of them; in one species considerable differences appeared under similar conditions of temperature and substrate. There was no growth below  $-8^{\circ}$  C. Copy seen: DLC.

44349. CHITTLEBOROUGH, R. G. Southern right whale in Australian waters. (Journal of mammalogy, Aug. 1956. v. 37, no. 3, p. 456-57.)

Contains information on the early abundance and economic role of this whale in south Australian and New Zealand waters; excessive whaling and decline beginning around the mid-19th century; protection measures; complete absence of the whale from the area during the past 50 years. A cow and calf were sighted in the area in Aug. 1955; observations regarding size, behavior, intervals between blows, etc., are given.

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CHIZHOV, O. P., see Zakharov, V. P., and O. P. Chizhov. O bor'be s ledûnymi zatorami . . . 1956. No. 49035.

44350. CHOQUE, CHARLES, Father. Myrtle warbler at Baker Lake, N. W. T. (Canadian field naturalist, Apr.-June 1956. v. 70, no. 2, p. 97.)

The bird which came into the Catholic Mission at Baker Lake on May 14, 1955, was identified as *Dendroica coronata*.

Copy seen: DA.

CHOW, BACON F., see USQM Food and Container Institute. Nutrition symposium. 1954. No. 48643.

44351. CHOWN, BRUCE, and M. LEWIS. The blood group genes of the Cree Indians and the Eskimos of the Ungava District of Canada. (American journal of physical anthropology, June 1956. v. 14, no. 2, p. 215–24, tables.) 9 refs.

Account of investigation of some 160 Indians living in the James Bay area, and 64 Eskimos from the eastern coast of Hudson Bay. The ABO, MNS, Rh, and P. S., the Kell, the Duffy, Lewis and Jay

systems were all studied, and gene frequencies calculated.

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44352. CHRISTENSEN, ERWIN OTTO-MAR, 1890 . Primitive art. New York, Crowell, 1955. 384 p., illus. (part col.), maps. (A Studio publication.)

Includes as chap. 2 (p. 60–104, map, 42 illus., 41 refs.) Alaska and the Pacific Northwest Coast, popular sketch of the Eskimo and Indian groups, their religious beliefs and art forms with 42 illus., mainly photographs of wood and stone carvings in major American and Canadian museums: totems, masks, utensils, etc. Scandinavian paleolithic sites are outlined (p. 331, 3 illus.). Copy seen: DLC.

44353. CHRISTENSEN, HELGE. Eenmands-ekspeditionen i Upernavik nord-distrikt. (Grønland, May 1956, nr. 5, p. 185–88, port.) Text in Danish. *Title tr.:* A one-man expedition to the northern Upernavik district.

Interviews Hans Lynge on his expedition in 1952–53 to study the language and traditions and legends in this region of northwest Greenland, 72°-74° N. 54°57′ W. (cf. No. 41166). He also made sociological studies among the 25 pure Eskimo families in the Upernavik district.

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44354. CHRISTENSEN, HELGE. Fra det nye Thule. (Grønland, Aug. 1956, nr. 8, p. 289–94, illus.) Text in Danish. *Title tr.:* From the new Thule.

Account of the settlement formerly called Kanaq (77°27' N. 69°11' W., north Greenland) but renamed in 1953 when the native population moved there from Thule Air Base, now officially termed Dundas. The new Thule with half the population of the District (200) is a modern community with hospital, boarding-school, power station, waterworks, radio telephone station, shop, church, etc.; but the people were trained for and live by hunting and fishing.

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44355. CHRISTENSEN, HELGE. Med politibåden. (Grønland, 1953, hefte 6, p. 216–18, illus.) Text in Danish. *Title tr.:* On the police boat.

Notes visit by two police officers to Kapisigdlit (approx. 64°30′ N. 50°20′ W.) in the Godthåb Fjord, West Greenland, and their methods of work. Calm discussions with offenders are an important part of police work. Copy seen: DLC.

44356. CHRISTENSEN, K. N., Selvforsyning med kartofler i Grønland. (Grønland, 1953, hefte 7, p. 271-77, illus.) Text in Danish. *Title tr.:* Domestic

potato supply in Greenland.

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Home-grown potatoes will not supply Greenland's needs, due to the short harvesting time, transport problems and lack of frost-free storage. Annually, 2,000 tons would be required for potatoes to figure in daily diet of the entire population. At present the yearly consumption is about 500 tons, mainly by Danes or Greenlanders with Danish habits. Large-scale potato culture is possible only in the Julianehåb district, 10–15 km. inland from the coast along the fjords; there in normal summers a yield of 10–15 tons/10,000 m² may be expected.

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44357. CHRISTENSEN, POVL ELO, and others. An epidemic of measles in southern Greenland 1951; measles in virgin soil, 1. (Acta medica scandinavica, 1952. v. 144, fasc. 4, p. 313-22, fold. map.) 14 refs. Other authors: H. Schmidt, O. Jensen, H. O. Bang, V. Andersen, and B. Jordal.

Account of the first measles epidemic on record in Greenland which began on Apr. 26, 1951; with information on epidemiological features of the disease; epidemics in other areas of the world; the area of the Greenland epidemic, its climate, population, living and sanitary conditions, trades and occupations, communications, etc.

\*\*Copy seen: DNLM.\*\*

44358. CHRISTENSEN, POVL ELO, and others. An epidemic of measles in southern Greenland, 1951; measles in virgin soil, 2; the epidemic proper. (Acta medica scandinavica 1953. v. 144, fasc. 6, p. 430-49, illus., tables.) 3 refs. Other authors: H. Schmidt, H. O. Bang, V. Andersen, B. Jordal, and O. Jensen.

Information is presented on methods of study; course of the epidemic, with details on the course in the larger communities; duration and course of the disease; complications and their incidence according to age, sex, etc.; treatment of complications; specific death rate of the epidemic, mortality in 1951; measles and pregnancy. The morbidity amounted to 99.9 percent with 45 percent of the cases complicated. Death rate was 1.8 percent.

\*\*Copy seen: DNLM.\*\*

44359. CHRISTENSEN, POVL ELO, and others. An epidemic of measles in

southern Greenland, 1951; measles in virgin soil, 3; measles and tuberculosis. (Acta medica scandinavica, 1953. v. 144, fasc. 6, p. 450–54, tables.) 7 refs. Other authors: H. Schmidt, H. O. Bang, V. Andersen, B. Jordal, and O. Jensen.

Information on the serious tuberculosis situation is presented and the effect of the measles epidemic evaluated. It is concluded that measles cause an aggravation of TB; a temporary reduction or absence of TB-allergy during measles infection is confirmed; several cases of post-primary erythema nodosum are reported.

Copy seen: DNLM.

44360. CHRISTENSEN, POVL ELO, and H. SCHMIDT. An epidemic of measles in southern Greenland, 1951; measles in virgin soil, 4; the significance of specific prophylaxis. (Acta medica scandinavica, 1953. v. 145, fasc. 2, p. 126–42, illus., tables.) 7 refs.

Account of prophylactic treatment with C-serum or gamma globulin administered during the epidemic. A moderate reduction of morbidity rate, attenuation of disease and lowering of frequency in complications were noted. The death rate was also lower except in tuberculous patients and premature children.

Copy seen: DNLM.

44361. CHRISTIANSEN, ARTHUR, 1912-, and W. MAKATSCH. Vögel im Norden. Radebeul, Neumann, 1956. 208 p. illus. 10 refs. Text in German. Title tr.: Birds in the North.

A popular account of birds found in Scandinavia and Finland, the Faroes, Iceland and Greenland, the text by Makatsch and 185 superb photographs taken by Christiansen, some of them in Special emphasis is placed on color. species nesting in the enumerated areas. Outline is given of the physiography of the arctic region; its avifauna, number of forms, numbers in general, ecology, and exploration. Each of the species, illustrated, is described in turn, its natural history, distribution, nesting habits and areas, food, migrations, etc. A final chapter (p. 197-207) by Christiansen, deals with photography, preferred cameras and their limitations, photographing birds in flight or on the nest, etc.

Copy seen: DLC.

44362. CHRISTIANSEN, BENGT. Blindpassasjerer. (Ottar, Tromsø, Oct. 1956. nr. 8, p. 34–36, illus.) Text in Norwegian. *Title tr.:* Stowaways. With modern fast shipment of freight, it is common for live insects to be imported with foodstuffs. They are specially searched for by customs officers to avoid introduction of new pests. A tropical beetle in a load of coffee beans and a Mediterranean grasshopper reached Tromsø, Norway, alive; these probably would not survive the cool climate, but the Colorado beetle is a potentially dangerous insect. Copy seen: DLC.

CHRISTIANSEN, J. V., see Brodthagen, H., and J. V. Christiansen. Polymorphic light eruptions; relation to ultraviolet light...sunshine. 1956 No. 44145.

44363. CHRISTIANSEN, KENNETH ALLEN, 1924— . Notes on Alaskan Collembola: I, a new genus and species of the family Isotomidae; II, three new species of arctic Collembola. (Psyche, Mar., Dec. 1951. v. 58, no. 1, p. 24–31, illus., plate 3; (II) no. 4, p. 125–40, plates 10–12.) 9 refs.

Contains (in pt. I) descriptions of Weberacantha n. gen. and W. octa n. sp. (type locality: 68°20′ N. 151° 30′ W. Anaktuvuk, Alaska, July 7, 1949), with notes on variation and relationships and measurements. This species was also taken from Mt. Richardson, just west of the Mackenzie delta in northwest Canada. In pt. II are descriptions of Schaefferia variabilis, Pseudanurophorus arctica and Anurida hammeri n. spp. collected at Umiat on the Colville River, and at Point Barrow in northern Alaska, by N. A. Weber in June-July 1949.

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44364. CHRISTIANSEN, REIDAR THORALF, 1886—. Noai'der og finnferd. (Sameliv, Samisk Selskaps årbok 1951–1952, p. 51–61.) Text in Norwegian. Title tr.: Sorcerers and magic travel among the Lapps.

Discusses some aspects of Lapp magic and its influence on Norwegian folklore; several traditions are quoted.

Copy seen: DLC.

44365. CHRISTIE, K. J. Mining activity in the northerly portion of the Northwest Territories and its effect on the Eskimo. (Northern affairs bulletin, Dec. 1956. v. 3, no. 8, p. 14-17.)

Methods and operations involved in the four stages of mining activities are discussed: exploratory work, preliminary and advanced development, production. Large financial resources and specialized knowedge are required to bring a mining claim into production. Natives' development of mineral resources is impossible; but a small number of Eskimos might be employed in claim staking or as guides in exploratory work; in advanced development and during production, that labor would be invaluable. Eskimos would benefit from steady employment, better living conditions and educational facilities.

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44366. CHRISTOFFERSEN, FINN. Grønlands jagt i søgelyset. (Atuagagdliutit: Grønlandsposten, Nov. 8, 1956. Ukiut 96-iat, nr. 22, p. 2, 10, 20-21.) Text in Danish and Eskimo. *Title tr.:* Greenland hunting in the limelight.

Advocates the creation of game-consultant posts in Greenland and the increase of the very small caribou stock in West Greenland. Copy seen: DLC.

44367. CHUDINOV, GRIGORII MI-KHAILOVICH. Rol' russkogo naroda v promyshlennom razvitii lākutii. (In: Akademifā nauk SSSR. lākutskiī filial. Institut fāzyka, literatury i istorii. Vedushchafā rol' russkogo naroda . . ., 1955. p. 121–38.) 9 refs. Text in Russian. Title tr.: The role of the Russian people in the industrial development of Yakutia.

Reviews the influence of Russian settlers on Yakut economy up to 1917, and describes the industrial development under Soviet rule stressing the vital part played by Russian specialists. Some of the more important industries (lumbering, gold and coal mining, power stations, machinery and ship building, etc.) are described and a few statistical data on output are given.

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CHUDINOV, GRIGORIĬ MIKHAĬLO-VICH, see also Naumov, G. V., and G. M. Chudinov. Sovetskata lĀkutita. 1956. No. 46953.

44368. CHUDNOVSKIĬ, L. A. Vliânie svetovogo i temperaturnogo rezhimov na chuvstviteľ nosť polovykh puteľ kastrirovannykh krolichikh k follikulinu. (Akademiâ nauk SSSR. Institut fiziologii im. I. P. Pavlova. Trudy, 1955. t. 4, p. 244–49, illus., tables.) 13 refs. Text in Russian. Title tr.: Influence of light and temperature regimens on the sensitivity of the genital tracts of spayed rabbits toward folliculine.

Light appears to have an effect on folliculine sensitivity of the ovaries only when the animals are spayed in the adult stage. The effect of light was found to be mediated through the neurohormonal and purely nervous paths. Temperature had no effect upon this activity of light. Copy seen: DNLM.

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44369. CHUDOV, V. Chetyre sibirskikh velikana. (Ogonëk, May 1956. god 34, no. 22, p. 14–16, illus.) Text in Russian. *Title tr.:* The four Siberian giants.

Construction of four great power stations on the Yenisey (at Yeniseysk and Krasnoyarsk) and Angara (at Bratsk and Irkutsk) is sketched: exploration, beginning of construction work, new settlements, etc. Copy seen: DLC.

44370. CHUGUNOV, B. V. Osnovnye tipy lesov Lenskogo rafona ÎAASSR i lesovozobnovlenie v nikh. (Akademiâ nauk SSSR. ÎAkutskii filial. *Yakutsk*. Institut biologii, Trudy, 1955. vyp. 1, p. 147-71, illus., tables.) 3 refs. Text in Russian. *Title tr.*: Basic types of forests in the Lena district of the Yakut A. S. S. R., and their timber renewal.

A study of natural forest renewal, cutting and burning, made during 1952 and 1953. Eight main forest types are described. They comprise some 50 typological units based on the nature of the flora and soil humidity. Underbrush and ground cover, soil profile, stands: their composition, also location on the relief and soil; rate of growth of young forests, were the main subjects of investigation. A list of plants dealt with (Russian and Latin names) is appended.

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44371. CHUGUNOVA, Z. E. TSvetovodstvo v lAkutske. (Sad i orogod, July 1956, no. 7, p. 72–74.) Text in Russian. Title tr.: Floriculture in Yakutsk.

Outlines methods of growing flowers in the climatic conditions of Yakutsk, with only 124 frost-free days a year: development of seedlings in greenhouses and hotbeds, planting in the open ground, fertilizing, watering and feeding, combatting pests, etc.

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44372. CHUKANIN, KONSTANTIN IVANOVICH. Meteorological observations. Washington, D. C., 1956. 25 p. illus., diagrs., graphs, tables incl. appendix paged 36–217 from Russian edition (Somov, M. M. Observational data . . . drifting station 1950–1951, pt. 8; translated by David Kraus).

The meteorological observations are particularly valuable since they were obtained in a part of the central Arctic, an area not previously observed for any significant unbroken period. Observations were made with standard meteorological equipment from Apr. 2, 1950 to Apr. 10, 1951 by ice-floe station North Pole-2 drifting between 76° and 81°50' N. 189° and 202° E. All major meteorological elements were observed and recorded four or eight times a day. Methods of measurement and a brief discussion of certain results are given. Data are tabulated (appendix) and graphed on air temperatures, relative humidity, wind, visibility, cloud height, and on mean, maximum and minimum snow depth and density. Copy seen: CaMAI.

44373. CHURCHILL-DAVIDSON, HARRY CUNNINGHAM. Hypothermia in perspective. (Royal Society of Medicine, London. Proceedings, 1956. v. 49, no. 6, p. 355-56) 4 refs.

Contains a definition of the term and information on prospects of hypothermia in surgery; hibernation; response of mammals to cold; critical temperature (of heart stoppage) and animal size; ventricular fibrillation; methods of producing hypothermia.

Copy seen: DNLM.

CIAMPALINI, L., see Tarantino, C., and others. Derivazione extrasurrenalica di ormoni corticoidi . . . 1956. No. 48341.

CICALA, G., see Navarra, S., and others. Vantaggi della ipotermizzazione . . . ipercapnia . . . 1956. No. 46962.

44374. CIER, J. F., and others. La calcémie dans l'hypothermie expérimentale. (Journal de physiologie, 1956. t. 48, no. 3, p. 455-58, tables) 7 refs. Text in French. Other authors: O. Benoit and M. Tanche. Title tr.: Calcemia in experimental hypothermia.

A comparative study of calcemia in dogs and rats during deep hypothermia. In the former, the calcium level remained stable during all stages of cooling (and rewarming). In rats blood calcium rose significantly during hypothermia.

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44375. CIER, J. F., and others. De quelques facteurs influençant l'activité électrique du cortex cérébral dans l'hypothermie. (Journal de physiologie, 1956, t. 48, no. 3, p. 458-61.) 13 refs. Text in French. Other authors: O. Benoit and M. Tanche. Title tr. On some factors

influencing electric activity of the brain

cortex during hypothermia.

Account of experiments with dogs made hypothermic by application of ice bags and administered penthobarbital, or a combination of penthobarbital-chlorpromazine, or n-tubocurarine. Electrocortical activity studied in these cases showed considerable variation of its components, depending on the drug applied. Conditions during rewarming were also analyzed.

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44376. CIRONE, MASSIMO. Ricorrendo il trentesimo anniversario del volo transpolare Amundsen Ellsworth-Nobile; appunti di un medico. (Giornale di medicina militare, 1956. anno 106, fasc. 4, p. 545-58, tables.) 25 refs. Text in Italian. Title tr: Towards the 30th anniversary of the Amundsen-Ellsworth-Nobile transpolar flight, notes of a physician.

Reminiscences of a participant in the expedition, giving a general outline of it, and information on the physical and health conditions of its members, also their biography, training, etc. Defense against cold (special provisions in the airship, heating arrangements, clothing), provisions and water, pemmican and its composition, medical aids, etc., are described. An objective examination is included of the Rome-Teller flight, analyzing the difficulties (fatigue, psychic tension, continuous vigilance and daylight, noise of the motors, etc.).

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CLARK, AUSTIN HOBART, 1880-1954. The bathymetrical and thermal distribution of the unstalked crinoids, or comatulids, occurring on the coasts of China and Japan. (Washington Academy of Sciences. Journal, Mar. 19, 1915. v. 5, no. 6, p. 213-18, 2 diagrs., 2 tables.)

Lists 90 species with bathymetric and thermal ranges, of which three (plus varieties of one of them, five in all) are arctic, some occurring in the Okhotsk Sea. Tabulated data are included on frequency of comatulids at different depths and at different temperatures. The arctic and antarctic species are most numerous between 0° and 2° C.; they do not occur in water warmer than 15° C.

> AUSTIN HOBART,

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CLARK, 1880-1954. The bathymetrical distribution of the arctic and antarctic crinoids.

(Washington Academy of Sciences. Journal., Feb. 4, 1915, v. 5, no. 3, p. 76-82, 2 diagrs.)

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The two faunas are compared and their elements discussed. The bathymetric range of three arctic crinoids is stated as Heliometra glacialis: 2-755 fathoms; Hathrometra prolixa: 10-1088; and Ilycrinus carpenterii: 755-1563; that of 18 antarctic species is also given. Bathymetric distribution of the two faunas is graphically compared, and the frequency tabulated. Copy seen: DLC.

44379. CLARK. AUSTIN HOBART. 1880-1954. Echinoderms collected by Capt. Robert A. Bartlett in the sea about Baffin Land and Greenland. (Washington Academy of Sciences. Journal, July 15, 1936. v. 26, no. 7, p. 294-96, 4 illus.)

Contains a record of localities in Labrador, Greenland (East, West and North) and Baffin Island waters, and a systematic list of 17 species with distributional data. Copy seen: DLC.

44380. CLARK, AUSTIN HOBART, 1880-1954. The interrelationships of the subfamilies and genera included in the crinoid family Antedonidae. (Washington Academy of Sciences. Journal, Oct. 4, 1917. v. 7, no. 16, p. 504-512.)

Contains keys to the subfamilies and genera, among the later: Heliometra, Florometra, Psathyrometra, Hathrometra and Thaumatometra, occurring from Greenland to the Kara Sea, Bering Sea, Aleutian waters and Okhotsk Sea.

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44381. CLARK, AUSTIN HOBART, 1880-1954. On the temperature of the water below the 500-fathom line on the west coast of South and North America. (Washington Academy of Sciences. Journal, July 19, 1916. v. 6, no. 13, p. 413–17, table.)

A study of 417 Albatross records, including 103 in the Bering Sea. The most striking feature of the abyssal temperatures of the eastern Pacific is the very small range of maximum variation (cf. table), much less than in the east Atlantic. Average temperature for Bering Sea as a whole at 500-750 fathoms is 1.71° below that of the entire ocean. In the Gulf of Alaska at 500-1,000 f., temperature is approx. the same as in the Bering Sea as a whole, less cold at 1,000-2,000 f. more cold below 2,000 f.

Copy seen: DLC.

44382. CLARK, AUSTIN HOBART, 1880-1954. A revision of the recent genera of the crinoid family Bourgueticrinidae, with the description of a new genus. (Washington Academy of Sciences. Journal, June 19, 1917. v. 7, no. 12, p. 388-92.)

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Contains key to the recent genera, and a list of six with data on geographic, bathymetric and thermal ranges. Two occur in the North: Ilycrinus, in waters from the Commander Islands eastward, and Norway-Iceland northward, also Rhizocrinus in North Atlantic to about 68°05′ N. on the Scandinavian coast.

Copy seen: DLC.

44383. CLARK, AUSTIN HOBART, 1880–1954, and G. J. LOCKLEY. Some echinoderms from northwestern Greenland. (Washington Academy of Sciences. Journal, Aug. 15, 1942. v. 32, no. 8, p. 250–51.) 5 refs.

Lists systematically 13 species collected by Capt. R. A. Bartlett 1940, off Labrador (West Turnavik, 55°15′ N. 59°20′ W.) and in Baffin Bay and Smith Sound shallow waters; localities recorded also.

Copy seen: DLC.

44384. CLARK, HUBERT LYMAN, 1870–1947. North Pacific Ophiurans in the collection of the United States National Museum. Washington, Govt. Print. Off., 1911. xvi, 302 p., 144 illus. (U. S. National Museum. Bulletin 75.)

Contains introductory remarks, notes on distribution in the North Pacific, and on geographic, bathymetric, temperature and associational distribution, followed by descriptions of 189 species (in 51 genera) collected mostly by the U.S. Bureau of Fisheries steamer Albatross in 1900 and 1906. Twelve genera and 129 species are described as new. About 70 species are native to the Bering Sea, Aleutian waters, Gulf of Alaska and Okhotsk Sea. Four quite distinct faunas are recognized for the region, viz. Bering: 35 species; Honshu: 114; American: 9; and Oceanic: 18 species.

Copy seen: DLC.

CLARK, LELAND CHARLES, 1918—, see Kaplan, S., and others. Oxygen availability . . . 1956. No. 45887.

44385. CLARK, W. GILMOUR. The Canadian Arctic. (Weatherwise, Apr. 1956. v. 9, no. 2, p. 61–63, illus.)

Popular article on year-round climate and other features in the high Arctic:

temperature, precipitation, wind, periods of daylight and darkness, vegetation, wildlife; network of arctic weather stations. Importance of regular reports from this area is stressed for trans-arctic aviation, for weather forecasting in North America, also for meteorological research.

\*\*Copy seen: DWB.\*\*

44386. CLARKE, FRANK WIGGLES-WORTH, 1847–1931, and G. P. MER-RILL. On nephrite and jadeite. (U. S. National Museum. Proceedings, Nov. 8, 1888. v. 11, p. 115–30, plate 33.)

Contains data on general characteristics, chemical composition and microstructure of various jade-like stones, including eleven Alaskan specimens of true nephrite in the collection of the U. S. National Museum. They are from various localities on the northern, central and southern parts of the Territory.

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44387. CLARKE, JOHN FREDRICK GATES, 1905— Revision of the North American moths of the family Oecophoridae, with descriptions of new genera and species. (U. S. National Museum. Proceedings, Nov. 6, 1941. v. 90, no. 3107, p. 33–286, I–VIII, 48 plates.)

Contains a discussion of the family, artificial keys to the genera and species based on male and female genitalia and on coloration, followed by a systematic list of 117 species (in 22 genera); eight genera, 20 species and one race are described as new. Synonyms, descriptions, critical remarks, type localities and data on food plants and distribution are supplied. At least one species, Endrosis lactella (p. 264-68) is recorded in Alaska. Indices to genera, species and localities and to food plants are appended.

Copy seen: DLC.

44388. CLEMMESEN, CARL, 1899—. Alkoholproblemer i Grønland og Danmark. (Grønland, Dec. 1956, nr. 12, p. 464–67.) Text in Danish. *Title tr.:* Alcohol problems in Greenland and Denmark.

Outlines the background of these problems in Greenland and offers suggestions for their solution: intensify activities of the teetotaller movement, give information, advice, medical treatment, etc. Copy seen: DLC.

44389. CLERK, N. A., and others. Modifications de l'électro-dermogramme, de la sudation et la température cutanée provoquées par la chlorpromazine (4560 R. P.) chez l'homme. (Electroencephalography and clinical neurophysiology, Feb. 1956. v. 8, no. 1, p. 35–39, illus.) 14 refs. Text in French. Summary in English. Other authors: M. Turner and E. Bérard. Title tr.: Modifications of the electro-dermogram of sweating and skin temperature provoked in man by chlorpromazine (4560 R. P.).

This drug produced an inhibition of the sudorific adrenergic response, an abolition of electro-dermographic response and a levelling of differences between proximal and distal temperatures of the skin. The possibility of a central origin of these changes is discussed.

Copy seen: DNLM.

44390. CLEVE, PER TEODOR, 1840– 1905. The seasonal distribution of Atlantic plankton organisms. Göteborg, 1900. 369 p. 5 fold. maps. (Göteborgs kungl. vetenskaps- och vitterhets-samhälle. Handlingar, 4 följden, 3:dje häftet.)

Animal and plant organisms contained in North Atlantic water collections of 1898–1899 (No. 44391) are identified. Several hundred species are systematically listed with date and location of sampling, mean, max. and min. temperature and salinity of containing water, and known distribution. Summary review of arctic, boreal, temperate, tropical forms.

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44391. CLEVE, PER TEODOR, 1840–1905, and others. Les variations annuelles de l'eau de surface de l'ocean Atlantique. Göteborg, 1901. x, 22 p. diagr., 5 fold. maps. (Göteborgs kungl. vetenskapsoch vitterhets-samhälle, Handlingar, 4 följden, 3:dje häftet.) Text in French. Other authors: G. Ekman and O. Pettersson. Title tr.: The annual variations of the water of the surface of the Atlantic Ocean.

Determinations of annual changes in salinity, temperature, and plankton over the North Atlantic were made in 1898–1899 through cooperation of ships at sea. Decrease in salinity from tropical, temperate, arctic to arctic littoral waters, is represented on maps. Three characteristic types of plankton are distinguished as tropical, temperate, and boreal. Plankton changes are charted monthly. In Aug. colder arctic waters begin to overspread the western Atlantic, reaching the eastern Atlantic much later. In the Norwegian Sea the isohalines have been

found to progress in the opposite direction. The effect of these variations is important to fishing and other marine harvesting activities. *Copy seen:* DLC,

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44392. CLEVELAND, LEMUEL ROS-COE, 1872-, and A. W. BURKE, Jr. Effects of temperature and tension on oxygen toxicity for the protozoo of Cryptocercus. (Journal of protozoology, May 1956. v. 3, no. 2, p. 74-77, illus. table.) 6 refs.

Toxicity of O<sub>2</sub> for this microorganism was found not to bear a proportional relationship to temperature. "At a constant low tension, it is more toxic at low temperatures than at high ones and, at a constant high tension, it is less toxic at low temperatures than at high ones."

\*Copy seen: DLC.\*

CLEVEN, MERRIL L., see U. S. Coast and Geodetic Survey. Magnetograms and hourly values . . . 1955. No. 48574.

44393. CLODMAN, J. The distribution of cirriform clouds. Toronto, Jan. 3, 1956. 10 p. graph, 3 text maps. (Canada. Meteorological Service. Circular 2737, TEC 227.) 7 refs.

Data on the occurrence of cirriform clouds are analyzed from approximately 2,000 high level aircraft reports. Auxiliary map charts and a graph showing percentage occurrence of cirrus as related to cloud height can be used to determine the mean probability of cirrus occurrence for a given season and a given geographical area north of 30° N. lat. from approx. 150° W. to 20° E. long. The graph can also be used to give the probability of cirriform clouds occurring at a given time from 400 mb. or 500 mb. A general analysis of the data is given, and the method of analysis is discussed.

Copy seen: DWB.

44394. CLODMAN, J. Visibility deterioration associated with operations of jet aircraft. (American Meteorological Society. Bulletin, Sept. 1956. v. 37, no. 7, p. 338–41, table.) 6 refs.

"The operation of aircraft may modify cloud and precipitation parameters sufficiently to cause a significant deterioration of visibility at an airfield. The conditions conducive to this effect are (1) large number of aircraft operating simultaneously in the vicinity of the airfield, (2) low temperatures, (3) light winds. An incident at Goose Bay [Labrador] on Dec. 4, 1954, is discussed in the light of the

above analysis."-Author's abstract. This incident (cf. H. Appleman) involved landing of 17 F-86 jet aircraft within about two hours, temperatures averaging about 10° F. During landings, conditions deteriorated generally to snow ceilings of 1,000 ft. and visibilities of one mile or less. Five miles away, visibility did not lower below five miles. ences between the author's and Appleman's conclusions are discussed.

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44395. COACHMAN, LAWRENCE K., and others Gas enclosures in a temperate glacier. (Tellus, Nov. 1956. v. 8, no. 4, p. 415-23, diagrs., tables, text maps.) 16 refs. Other authors: E. Hemmingsen, and P. F. Scholander.

Techniques for separating gas from glacier ice and analyzing it for O2, N2, and CO2 are described. Results of systeminvestigations on Storbreen, glacier in central Norway, are reported. The gas pressure in the ice increased from atmospheric pressure in the upper part of the glacier to two atm. near the terminus, and the ice density increased The amount of gas varied similarly. widely, comprising from 1.8-7.8 percent of the ice volume. The various gas parameters are briefly discussed in relation to glacier mechanics.

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COACHMAN, LAWRENCE K., see also Nutt, D. C., and L. K. Coachman. The oceanography of Hebron Fiord . . . 1956. No. 47116.

44396. COATS, ROBERT ROY, 1910-

Geology of northern Adak Island, Washington, D. C., U. S. Govt. Print. Off., 1956. p. 45-68, 9 illus. on 5 plates, 2 maps (1 fold.). (U. S. Geological Survey. Bulletin 1028-C. Investigations of Alaskan volcanoes.) 5 refs.

Contains results of U. S. Geological Survey volcano investigations under direction of G. D. Robinson. Previous reports are listed as Arctic Bibliography, Nos. 21239, 28575, 31654, 40715, 42513; another is No. 44937. About 73 sq. mi. on northern Adak (51°46' N. 176°40' W.) were mapped in 1946 by the author and W. F. Thompson. Two physiographic and geologic divisions exist: "a deeply glaciated southern area of folded, faulted, and intensely altered volcanic rocks of Paleozoic(?) age, intruded by gabbro and rocks of intermediate composition; and a mountainous northern area comprising remnants of three distinct basaltic volcanoes of Tertiary or Quaternary age." Five volcanoes in the southern area, probably of early Tertiary age, cannot be correlated with any of the three volcanic centers in the north. Glacial and Recent unconsolidated deposits and geologic history of the island are described. The volcanoes have apparently been inactive since early Quaternary time, but frequent earthquakes indicate instability of earth's Copy seen: DGS. crust.

44397. COATS. ROBERT 1910-. Geology of northern Kanaga Island, Alaska. Washington, D. C., U. S. Govt. Print. Off., 1956. p. 69-82. illus., 2 maps (1 fold.). (U. S. Geological Survey. Bulletin 1028-D. Investigations of Alas-

7 refs. kan volcanoes.)

Northern Kanaga (51°47' N. 117°15' W.) was mapped in summer 1946 by the author and W. F. Thompson. Oldest rocks recognized are a series of basalt flows and tuff beds (probably late Tertiary), remnants of a cone formed near the present north coast. After partial erosion of the cone, a basalt shield volcano, Mt. Kanaton, arose nearby. In late Pleistocene, the central part of the volcano and the cones on its flanks collapsed, leaving a large caldera in which the present cone of Kanaga Volcano built up. This has been intermittently active during historical time. Last eruptions (of basaltic lava) occurred in 1904 and 1906. Present activity is mild and fumarolic, but future eruptions can be expected .-From author's abstract.

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44398. COATS, ROBERT ROY, 1910- . Reconnaissance geology of some western Aleutian Islands, Alaska. Washington, D. C., U. S. Govt. Print. Off., 1956. p. 83-100. 3 illus. on 2 plates, 2 maps (1 fold.). (U. S. Geological Survey. Bulletin 1028-E.) 9 refs.

Summarizes field and air observations by the author and W. F. Thompson in summer 1946 between Kasatochi and Attu (51°15'-53° N. 175°30' W.-173° E.), islands are of two main types: lowlying, wave-cut platforms, and mountains. A large land mass of metamorphic rocks intruded by granite probably existed in the Paleozoic(?) era. Volcanism occurred in the Mesozoic(?) and again in early Tertiary. During a period of submergence the Tertiary volcanoes were beveled by marine erosion. In late Tertiary and Quaternary, basaltic shield volcanoes and composite cones were built up along the northern margin of the present island belt, north of the Mesozoic(?)-early Tertiary vents. Downfaulting caused much of the southern part of the belt to disappear below sea level. Glaciers on the higher parts of the islands during the Quaternary greatly modified the topography. Many volcanoes are still active.

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44399. COBBOLD, A. F., and O. J. LEWIS. Blood flow to the knee joint of the dog; effect of heating, cooling and adrenaline. (Journal of physiology, May 1956. v. 132, no. 2, p. 379-83, illus., table.) 6 refs.

Contains description of a method for direct measurement of blood flow to the knee joint of the dog, followed by an account of the experiments. Rapid cooling of the joint caused a decrease of blood flow to about half the initial value.

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COCKFIELD, WILLIAM EGBERT, 1890- , see Alcock, F. J. Zine and lead . . . Canada. 1930. No. 43558.

44400. COCKRUM, ELMER LENDELL, 1920— . Sperm whales stranded on the beaches of the Gulf of California. (Journal of mammalogy, May 1956. v. 37, no. 2, p. 288.)

Report on two cases of multiple stranding of these whales. The first, in Apr. 1953, concerns nine animals, stranded about 80 miles south of Rocky Point, Sonora, Mexico; the second in Feb. 1954, involved 58 whales beached at La Paz at the southern tip of Baja, California.

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44401. CODDINGTON, FREDERICK L., and P. H. MOORE. Echinococcus cysts in human beings. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 147–49.)

Presentation of five cases of echinococcosis in man, four of them in the lung and one in the brain. All except the last one were successfully treated by surgery, currently the treatment of choice in pulmonary cases. The pathology of the two forms is discussed.

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**44402.** CODY, W. J. A history of *Tillaea aquatica* (Crassulaceae) in Canada and Alaska. (Rhodora, May 1954. v.

56, no. 665, p. 96–101, text map.) 14 refs. Contrib. No. 1340, from the Botany and Plant Pathology Div., Sci. Service, Dept. of Agriculture, Ottawa, Canada.

Contains notes on the study and collection of this plant, including records from Yellowknife in Mackenzie District, Newfoundland and Alaska Peninsula (muddy shore of Naknek River).

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44403. CODY, W. J. New plant records from northern Alberta and southern Mackenzie District. (Canadian field-naturalist, July-Sept. 1956. v. 70, no. 3, p. 101–130, text map.) 20 refs. Pub. also as: Contrib. no. 1491 from the Botany and Plant Pathology Div., Science Service, Dept. of Agriculture, Ottawa, Canada.

Contains a systematic annotated list of about 250 species of flowering plants and vascular cryptogams. More than 150 of them are recorded in southern Mackenzie District, mostly in the Great Slave Lake region: Yellowknife, Snare River, Indin Lake. Antennaria leontopodioides (Indin Lake) and Haplopappus lanceolatus var. sublanatus (Salt Plain west of Ft. Smith) are described as new. List is included of the 26 localities (54°46′-66°05′ N. 111°10′-118°30′ W.) from which specimens are cited.

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44404. CODY, W. J., and J. G. CHILL-COTT. Plant collections from Matthews and Muskox Lakes, Mackenzie District, N. W. T. (Canadian field-naturalist, Oct.—Dec. 1955. v. 69, no. 4, p. 153—62.) 14 refs. Also pub. as: Contrib. No. 1465 from the Botany and Plant Pathology Div., Science Service, Dept. of Agriculture, Ottawa, Canada.

Introductory sketch of the geology and exploration of the region and of the floristic relationships is followed by a systematic annotated list of 84 species of phanerogamic plants. The collection, 51 representing the Matthews Lake area (64°05′ N. 111°15′ W.), and 62 Muskox Lake (64°38′ N. 108°15′ W.) was made by the junior author in the summer of 1953, while taking part in the Northern Insect Survey.

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44405. CODY, W. J. Salicornia europaea in the James Bay region. (Rhodora, Mar. 1954. v. 56, no. 663, p. 61-62.) Contrib. No. 1328, from the Botany and Plant Pathology Div., Science Service, Dept. of Agriculture, Ottawa, Canada.

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Notes a specimen of this plant was collected on Sept. 15, 1952, at Cabbage Willows Bay at the southern extremity of James Bay (ca. 51°31′ N. 79°17′ W.); it had been previously reported from Keewatin District, Ontario and Ungava district, Quebec. Copy seen: DA.

44406. COE, DONALD MELVIN, 1908- . Plant disease observations in Alaska. (In: Alaskan Science Conference . . 1952. Proceedings, pub. 1954, p. 193.)

Deals with the role of climate in the establishment of plant diseases; current studies on: ring rot and other potato diseases, diseases of raspberries and strawberries, vegetables, cereal crops, alfalfa, etc.

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44407. COE, WESLEY ROSWELL, 1869—. Geographical distribution of the nemerteans of the Pacific coast of North America, with descriptions of two new species. (Washington Academy of Sciences. Journal, Jan. 15, 1944. v. 34, no. 1, p. 27–32. Also issued as: Contributions of the Scripps Institution of Oceanography, University of California, new ser, no. 216.) 6 refs.

Contains a systematic annotated list of 99 species. Euborlasia variegata n. sp. is described from Cook Inlet, Alaska, and Amphiporus maculosus n. sp. from St. Paul Island in the Pribilofs. About 30 other species are recorded in Bering Sea, Aleutian waters and Gulf of Alaska.

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4408. COE, WESLEY ROSWELL, 1869— . Nemerteans from the northwest coast of Greenland and other arctic seas. (Washington Academy of Sciences. Journal, Feb. 15, 1944. v. 34, no. 2, p. 59–61.) 10 refs.

Contains notes on Tubulanus annulatus, Micrura purpurea, Celebratulus barentsi and Amphiporus groenlandicus obtained in northwest Greenland waters in 1940, and a list of 30 other species found in the Arctic, some having circumpolar distribution.

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44409. COE, WESLEY ROSWELL, 1869 - Nemerteans of the West and Northwest coast of America. Cambridge, Mass. Printed for the Museum, Mar. 1905. 318 p., 62 illus., 25 plates (par<sup>4</sup>. col.). (Harvard University. Museum of Comparative Zoology. Bulletin 47.) 70 refs.

Contains general characters of nemerteans, anatomical and histological structures, development, geographical distribution, systematic position. Distribution of the Pacific coast species, keys to groups and species, and a systematic account of 86 species (in 20 genera) are given; 24 of the species are new; 33 recorded on the Alaskan coast, nine in Aleutian waters, nine in the Bering Sea and one in Arctic Ocean (table, p. 79).

Copy seen: DLC.

44410. COFFEY, J. E., and F. W. WIGLESWORTH. Trichinosis in Canadian Eskimos. (Canadian Medical Association journal. Aug. 1956. v. 75, no. 4, p. 295–99, illus.) 14 refs.

Following introductory notes on the incidence of trichinosis in Canada and its causes, two cases in siblings from Labrador are presented, with clinical autopsy and biopsy data. One patient, a boy aged 7, died from myocardial involvement. The incidence among Eskimos, etc., is discussed. *Copy seen:* DNLM.

44411. COFFEY, M. F. Aids to working in the cold. Fort Churchill, Manitoba, Ottawa, Queens Printer, 1956. 17 p. illus. (Canada. Defence Research Northern Laboratory.)

Contains "hints and aids . . . tried and proven" on hygiene, care of clothing, mitts, mukluks, etc.; work in the cold and its organization, protection from wind, morale, fire safety, survival, first aid, keeping warm outdoors; sleeping in the cold. Prepared for workers on the DEW Line, this handbook stresses the morale factor, indoctrination, etc., and provides a briefing outline.

Copy seen: CaMAI.

COFFMAN, ROBERT J., see Johnson, H. A., and R. J. Coffman. Land occupancy . . . homesteads . . . Kenai Peninsula . . . 1956. No. 45811.

44412. COKER, DOROTHY. Revision of the North American species of *Encalypta*. (Torrey Botanical Club, Bulletin, Nov. 1918. v. 45, no. 11, p. 433–49, plates 13–14.) 48 refs.

Contains a chronological list of the North American forms, a key and a systematic list of eight species, with synonyms, descriptions, and data on distribution, illustrations and exsiccatae. E. rhabdocarpa (arctic America, Greenland,

Labrador), E. alpina (Alaska and Greenland), E. brevicolla (Labrador) and E. procera (Alaska), are included.

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44413. COLE, GEORGE EDWARDS, 1879- . Manitoba and Saskatchewan. (Western miner, May 1956. v. 29, no. 5, p. 96-100.)

Includes (p. 96-97) a survey of mining and milling during 1955 at Sherritt Gordon Mines Ltd. nickel-copper mine, Lynn Lake, Manitoba (56°51′ N. 101°03′ W.), and refining at Fort Saskatchewan, Alta., based on the company's annual report. Net profit of \$7,049,436 was realized. Underground development and exploration program are briefly described. Ore reserves as of Dec. 31, 1955 were estimated at 13,820,000 tons, averaging 1.46 percent nickel and 0.587 percent copper. Nickel production at the refinery totalled 16,666,574 pounds during this first full year of operation. Designed capacity is 16,800,000 pounds. Copy seen: DGS.

44414. COLE, GEORGE EDWARDS, 1879- . Record production in Manitoba. (Western miner, Apr. 1956. v. 29,

no. 4, p. 108-111.)

Includes notes on development at Rankin Inlet nickel mines on the west coast of Hudson Bay, Keewatin District, construction of the mill (to be completed early in 1957) and readying of the mine for production; also 1955 production of Sherritt Gordon nickel-copper mines at Lynn Lake, northern Manitoba, location of two new orebodies and some cost figures. Further notes by Cole on these areas, and on exploration of the iron ore discovery in the Belcher Islands, Hudson Bay, appear in subsequent 1956 issues of this journal: no. 6, p. 75, 78–80; no. 8, p. 58–63; no. 9, p. 68–70; no. 10, p. 86–89; no. 11, p. 78; no. 12, p. 62-63. Copy seen: DGS.

COLE, WILLIAM R., see Helmsworth, J. A., and W. R. Cole. Comparison of two methods . . . hypothermia . . . 1956. No. 45512.

44415. COLLIAS, EUGENE E., and others. Eastern North Pacific and Gulf of Alaska offshore physical and chemical data, April 1954–January 1955. Seattle, Wash., University of Washington, Dept. of Oceanography, June 1956. vii, 33 l., 3 maps (1 fold.), tables. (Its: Technical report no. 49.) Other authors: C. M. Love and R. G. Paquette.

Offshore data collected during this period

by the University of Washington's research ship Brown Bear are tabulated. Oceanographic stations were taken off the coasts of Washington and Oregon and (60 stations, Aug. 2–Sept. 8, 1954) throughout the Gulf of Alaska. Values given include temperature, salinity, dissolved oxygen, and dissolved inorganic phosphate from the surface to near bottom.

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44416. COLLIER, R. D. Some recent developments in snowmobiles for hauling pulpwood. Montreal, Jan. 1950. 4 p. illus. (Montreal. Pulp and paper research institute of Canada. Woodlands Research Index no. 77: B-8-e.)

Contains summary of recent improvements in the Bombardier passenger snowmobile, including a new type track reinforced with steel wires, a new truck differential, and new Al-alloy driving sprockets. A new hauling unit incorporates a reinforced frame and cab-type body. The optimum load on flat hauls under good road conditions is around four Snowmobiles with a 5.83 to 1 cords. truck differential can haul six cords under ideal conditions. Methods of preparing roads for hauling include snow compaction with snowmobiles and plowing and Copy seen: DA. icing.

COLLIN, A. E., see Campbell, N. J., and A. E. Collin. A preliminary . . . oceanographic features of Foxe Basin . . . 1956. No. 44245.

**44417. COLLIN, J. E.** Scandinavian Pipunculidae. (Opuscula entomologica, 1956. Bd. 21, häfte 2–3, p. 149–69.)

Contains an alphabetic list of 55 Scandinavian species in collections of Fallén, Zetterstedt and Roth; a synopsis of taxonomic groups; descriptions of new species (not arctic), and notes on some others. Zetterstedt's collection includes some arctic species described in his Insecta lapponica (No. 27586) and Diptera Scandinaviae (No. 27584).

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44418. COLLINDER, BJÖRN, 1894— Lapparna, en bok om samefolkets forntid och nutid. Stockholm, Forum, 1953. 252 p., 41 illus. on 16 plates, 26 diagrs., 2 text maps. Approx. 200 refs. Text in Swedish. *Title tr.:* The Lapps, a book about their past and present.

Revised edition of No. 21272, which treated (in English) the physical, social, and cultural aspects of Lappish life. In the revision, attention is directed to the problems of a small group of primitive people faced with necessary adjustment to twentieth century standards and with trying to benefit from new contacts without losing the essential features of their own culture.

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44419. COLLINDER, BJÖRN, 1894— Swedish research on the language and folklore of the Lapps. (Svenska landsmål och svenskt folkliv 1956. Årg. 79, häfte 1–4, whole no. 270, p. 25–50.)

Contains (p. 33-50) a bibliography of about 75 books and papers, and some 400 unpublished mss. in the Uppsala University Library (among them K. Wiklund's collection) and at the Institute for Dialect and Folklore Research at Uppsala. Introduction, surveys, investigators and their work from Johannes Tornalus, translator into Lappish of the Swedish Church service book (1648), The New Testament was to the present. published in Lappish in 1755. Since World War II, the Lapp department of the Landsmål och Folk minnesarkivet (The Institute for Dialect and Folklore Research) has sent out ten expeditions to record all Lappish dialects spoken in Sweden, also vocal music.

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44420. COLLINDER, PER ARNE, 1890- . Försök i fjällkanten. (Svenska turistföreningen, Stockholm, Årsskrift, 1950, p. 333–49, 8 illus. text map.) Text in Swedish. *Title tr.:* Research at the edge of the mountains.

Astronomical research in Swedish Lapland and its place in native life are discussed. As heavenly bodies tend to move in orbits rather than from east to west, they are of value as time indicators rather than directional signals. Natives' recognition of constellations, their legends, etc., are treated as well as scientific aspects of arctic illumination.

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44421. COLLINDER, PER ARNE, 1890-

. Midnattssolen. (Svenska turistföreningen, Stockholm. Årsskrift, 1953, p. 208–215, text map, diagr., fold. plate.) Text in Swedish. *Title tr.:* The midnight sun.

Importance of increased sunlight in summer to northern regions, particularly the Arctic, is described in a discussion of relationships between sun and earth. A photograph in 24 sections taken at hourly intervals with the camera facing

the sun, provide a 24-hr. view of midsummer in the Torneträsk-Abisko district of northwestern Sweden. Temperature, wind, clouds, and landscape elements are identified in the text accompanying the panorama. Copy seen: DGS.

44422. COLLINI, BENGT. On the origin and formation of the Fennoscandian Quaternary clays. (Geologiska föreningen, Stockholm. Förhandlingar, 1956. bd. 78, nr. 486, häft. 3, p. 528–36, table.) 25 refs.

The three different opinions regarding origin and formation of Quaternary water-laid clays are reviewed. Particle size, mineralogical composition, and other characteristics of clay samples from present Swedish glaciers are tabulated and discussed. High clay content of glacial clays and low clay content of tills and recent glacial oozes are rationalized. Discussion following presentation of the text is included. Copy seen: DGS.

44423. COLLINS, F. H. Radio in the Yukon Territory. A brief presented to the Royal Commission on Broadcasting. [Ottawa?] Apr. 1956. 9 p. text map. Mimeographed.

Commissioner of the Yukon Territory stresses lack of adequate radio links with the rest of Canada. Stations at Whitehorse, Dawson, and Watson Lake cannot receive transmission of the Canadian Broadcasting Corp. regularly nor those of other Canadian stations; but Yukon residents hear regular broadcasts of stations in western U.S. and Alaska and the Soviet North American service. powerful transmitter in southwestern British Columbia is recommended, also re-equipment and reorganization of existing local stations to re-broadcast transmissions from the south. Map shows relative frequency and quality of reception from Canada, U.S.A., & U.S.S.R.

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44424. COLLINS, HENRY BASCOM, 1899— . Archaeological investigations on Southampton and Coats Islands, N. W. T. (Canada. National Museum. Bulletin, 1956. no. 142, p. 82-113, 12 plates.) 7 refs.

Describes archeological work and artifacts collected in June-Aug. 1954, during an expedition sponsored by the National Museum of Canada, the National Geographic Society, and the Smithsonian Institution. Primary objective of the four-man party was to excavate Dorset

culture sites at Native Point, principal settlement of the extinct Sadlermiut Eskimos of Southampton Island. Artifacts from two Dorset sites, T 1 and T 2, are described and illustrated. A number of typical Dorset types, present at T 2, were absent at the larger and older T 1. Many of the types found at T 1 were new to the Dorset culture. faunal remains from the excavations were preserved. Mammal bones, numbering over 45,000, indicate seal as the most important food animal of both peoples. Dorset people, unlike Sadlermiut, made little use of caribou and had no dogs. Excavations were also made at Sadlermiut sites on Coats and Bencas Islands. Copy seen: DGS.

44425. COLLINS, HENRY BASCOM, 1899 - The T 1 site at Native Point, Southampton Island, N. W. T. (Alaska. University. Anthropological papers, May 1956. v. 4, no. 2, p. 63–89, illus., table.) 37 refs.

Discusses the 1954 and 1955 excavations at site T 1 discovered by G. D. Bell in 1950. The ivory, bone and flint implements are described in turn. The abundance of flint and flint artifacts, occurrence of rock crystal, scarcity of rubbed slate, nephrite and soapstone, and absence of chalcedony objects are noted. The chronological age of the site, dated by radioearbon to  $2,000 \pm 230$  years, is analyzed, the differences and common traits with other Dorset and pre-Eskimo sites are indicated and a classification as formative or proto-Dorset suggested. Burins, spalls, micro-blades, side and end blades are compared with those from pre-Eskimo flint sites in Alaska and Canada. These features and two others (rectangular side blades and backed blades) also occur at Old World Mesolithic The T 1 site, author concludes, brings further evidence of the Mesolithic affinities of the early Arctic flint sites, and of the latter as the immediate source of Dorset culture. The identification of animal bones shed light on the diet of the T 1 people who, having no dogs, hunted mainly sea mammals (predominantly seals) and birds. Copy seen: DLC.

44426. COLLINS, HENRY BASCOM, 1899 . Vanished mystery men of Hudson Bay. (National geographic magazine, Nov. 1956. v. 110, no. 5, p. 669–87, 17 illus. (13 col.), 2 text maps.) 3 refs.

Popular account of two Smithsonian

Institution-National Museum of Canada-National Geographic Society expeditions to Southampton Island led by the writer in summer 1954 and 1955. Sadlermiut and Dorset Eskimo sites were studied at Native Point southeast of Coral Harbour. on Coats Island, and Walrus Island (between Southampton and Coats). Evidence was found that the Sadlermiuts who died out in 1902-1903 were last survivors of the Dorset culture. Tools and weapons found at the sites closely resembled those of the European Stone Age men 8,000 years ago. Writer also comments on some of the birds and mammals seen, and describes harpooning a walrus that had been feeding on seals, as attested by masses of undigested seal skin in its stomach. Copy seen: DGS.

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COLLINS, HENRY BASCOM, 1899—, see also Harp, E. Arctic, 1. 1956. No. 45445.

44427. COLTON, ROGER BURNHAM, 1924—, and C. D. HOLMES. Geomorphology of the Nunatarssuak area, (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, pub. 1954. p. 27–52, illus., diagrs., 1 fold.) 2 refs.

Results of studies of glacial deposits and frost-action phenomena in relation to actual and potential transportation facilities, and the glacial history of the area as it relates to changes along the ice margin are reported. The characteristics of seasonal frost, permafrost, soil polygons, stone networks and stripes, solifluction features, avalanches, snow fields and small glaciers, and river icings are described. About half of the area is underlain by rubble produced by frost splitting of underlying bedrock, and few bedrock outcrops exist. Deposits left by glaciers which formerly covered the area include: till, outwash gravel, and kames, which cover about 45 percent of the region. Beach deposits around lakes and gravel deposits of present streams cover about 5 percent of the area. Extensive retreat of the larger ice-age glacier occurred more than 9,000 years ago. More recently the outlet glaciers have expanded 0.25-6 miles. The present trend toward marginal recession and lowering of the icecap began within the last 200 years. An exception to the general retreat is the present advance of North Icecap. About 10 percent of the land area is covered with perennial snow banks and small glaciers. Copy seen: CaMAI.

44428. COMITA, GABRIEL W. A study of a calanoid copepod population in an arctic lake. (Ecology, July 1956. v. 37, no. 3, p. 576–91, illus., tables.) 20 refs.

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A description of cyclical activities of Limnocalanus johanseni in Imikpuk, a small, shallow, freshwater body at Point Barrow, Alaska. Notes on the lake, its physiography and hydrography are followed by information on the life cycle of the copepod, its reproductive activity, egg hatching, growth, bimodality, weightsize proportions, mortality; comparisons are made with other species.

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COMITÉ SPÉCIAL DE L'ANNÉE GÉO-PHYSIQUE INTERNATIONALE, see IGY. Special Committee. CSAGI Arctic Conference, May 1956. 1956. No. 45705.

44429. COMMERCIAL FISHERIES REVIEW, U. S. Fish and Wildlife Service. [News notes.] (Commercial fisheries review, 1956. v. 18, no. 1-12. In continuation of No. 39329.)

Contains monthly statistics on fish landings, holdings, products, etc., including those from Alaska; brief information on possible use of Alaskan fishery waste (no. 1, p. 14); elimination of fish traps (no. 1, p. 16); economic data on U. S. and Alaskan fisheries, 1955 (no. 6, p. 41-43); bait herring (no. 7, p. 24); bulk shipment of Alaskan herring meal, and salmon waste as bait (no. 10, p. 8, and p. 11); a bottom fish survey in the waters off Southeast Alaska (no. 11, p. 45); etc. The sheefish or "inconnu" of northwestern Canada is described and its economic value noted (no. 9, p. 63-64); a decline of West Greenland cod yields due to falling temperatures is predicted (no. 12, p. 66-67). International projects, agreements, etc., covering the northwest Atlantic and the northern Pacific are noted (no. 2, p. 39, 40; no. 4, p. 29; no. 7, p. 66; no. 9, p. 45, 46, 54; no. 11, p. 68). Japanese agreements with Russia on Pacific salmon, and fishing in general, are outlined (no. 7, p. 68-71), and Japanese developments in North Pacific salmon fisheries discussed (no. 10, p. 74-75). Soviet regulation of salmon fishing in the northwestern Pacific (no. 5, p. 62) and the significance of Murmansk as a major fishing port (no. 11, p. 107-108) are outlined. Whaling and sealing, including the American Arctic are noted (no. 3, p. 10, 28-29; no. 6, p. 56-58; no. 7, p. 75; no. 9, p. 53-54, 57; no. 11, p. 73, 87, 95; no. 12, p. 60-61). *Copy seen:* DI.

COMMISSION FOR THE STUDY OF SOLAR AND TERRESTRIAL RELA-TIONSHIPS, see Paton, J. The observation of aurora. 1954. No. 47273.

44430. CONFERENCE ON COLD IN-JURY, 4th, Princeton, N. J., Nov. 7-9, 1955. Transactions, edited by M. Irené Ferrer. New York, Josiah Macy Jr. Foundation, 1956. 371 p. illus., tables.

Contains account and discussions of cold injury and its sequels in man and experimental frostbite in laboratory animals; also of cellular metabolism at and following low temperatures; freezing and resuscitation of mammals; physiology and pathology of hypothermia; hypothermia in medical application; methods, etc. A preface by Frank Fremont-Smith explains the aims and achievements of these conferences and the appendix contains autobiographical sketches of the Conference participants. The twelve studies presented are described in this Bibliography under their authors' names, viz.:

BLAIR, J. R. Follow-up study of cold injury cases from the Korean war. p. 9-

35.

SCHATZKI, R. Roentgenologic changes in bones following cold injury in man. p. 37-71.

BLAIR, J. R. Experimental cold in-

jury in the rabbit. p. 73-84.

SCHATZKI, R. Roentgenologic changes in frost-bitten rabbits. p. 85–96. KULKA, J. P. Histopathologic studies in frost-bitten rabbits. p. 97–151.

FUHRMAN, F. A. Changes in cellular metabolism following experimental

cold injury. p. 153-72.

MONTGOMERY, H. Experimental immersion foot in the rabbit. p. 173-95.

SIMEONE, F. A. Preliminary followup report on cases of cold injury from World War II. p. 197–223.

SMITH, A., and R. K. ANDJUS. Resuscitation of hypothermic, supercooled and frozen mammals. p. 225-79.

SHUMACKER, H. B. Blockade techniques as protective measures against ventricular fibrillation during hypothermia. p. 281–304.

thermia. p. 281–304. LEWIS, F. J. Clinical application of hypothermia during open heart surgery.

p. 305-328

SWEET, W. H. Cerebral studies during local and general hypothermia. p. 329-39. Copy seen: DLC.

44431. CONKEY, JAMES V. A. An unreported specimen of the whale, Balaenoptera physalus. (Journal of mammalogy, Aug. 1956. v. 37, no. 3, p. 455-56.)

Description of a skeleton of this species, from an animal 63 ft. long, captured in 1897 at Long Beach, California. Some morphometric data and the "history" of the skeleton, are presented. Copy seen: DI.

CONSOLI, G. see Visconti, S., and others. Primi studi . . . ibernazione sperimentale. 1955. No. 48763.

44432. CONSTRUCTION METHODS AND EQUIPMENT. Frozen-in-place piles support Air Force building in Alaska. (Construction methods and equipment, June 1956. v. 38, no. 6, p. 62-64, illus.)

Contains description of a new method of constructing building foundations in permafrost used at Bethel, Alaska. A special, 18-in. auger with a cone-shaped bit and carbide inserts is used to drill holes 33 ft. deep. Timber piles, provided with two sets of refrigeration pipes, are lowered into the holes, which were backfilled with a slurry of water and drill cuttings. CaCl. brine at  $-5^{\circ}$  C. was then pumped through the pipes to freeze the slurry. The freezing process takes 32 hr. Copy seen: DLC.

44433. CONSTRUCTION METHODS AND EQUIPMENT. Working frozen ground in the Arctic. (Construction methods and equipment, Apr. 1948. v.

30, no. 4, p. 92-95, illus.)

Describes construction of an earth-fill dam built by W. A. Kraner for Livengood Placers Inc. on Hess Creek, 90 miles from Fairbanks, Alaska, where active layer of permafrost is two ft. thick, and period of thaw is about 150 days/year. To strip the damsite of 400,000 cu. yd. of overburden (30 percent upward frozen moisture content), water at 52° F. was pumped through 300-400 sprinkler heads. Soil melted and washed off at 4-6 in./24 hrs. The sprinkled water was pumped upstream where it filtered into the stream bed and was re-used. The toes of the dam were frozen by circulating a refrigerant to prevent instability during the summer season. Also described in No. 21670. Copy seen: DLC.

44434. CONSTRUCTOR. Twobuilding city now completed in Alaska. (Constructor, Dec. 1956, v. 38, no. 12, p. 62; illus.)

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Contains a brief description of the two apartment buildings, the second completed near the end of 1956, at the military post of Whittier. They were built at an approximate cost of 10.5 million dollars under the supervision of the U. S. Corps of Engineers. The apartments provide housing for military personnel. Copy seen: DLC.

44435. CONTRACTORS AND ENGI-NEERS. Electronic device marks safe route in Arctic. (Contractors and engineers, Oct. 1956. v. 53, no. 10, p. 120.)

Contains brief description of an electronic trailmarking device developed by the U.S. Army Corps of Engineers. Parallel wires buried in the snow, one on each side of the trail, are fed alternating current. A receiver mounted in a vehicle allows the driver to ascertain his position within the trail. The system has been tested in Greenland. Copy seen: DLC.

CONTRACTORS AND ENGI-NEERS. Ice-bound tractor goes back on the job (Contractors and engineers, Oct. 1956. v. 53, no. 10, p. 98, illus.)

Recovery of a caterpillar D4 tractor lost six months earlier in sea ice near Eureka, northwest Ellesmere is described. The operation required ten days, and the tractor showed surprisingly slight damage. Copy seen: DLC.

44437. CONTRACTORS AND ENGI-NEERS. North of the Arctic Circle. (Contractors and engineers, Oct. 1956. v. 53, no. 10, p. 118, illus.)

Contains notes and photographs (8) of flexible-type paving operations on a taxiway at the Thule Air Force Base. Each of the major operations from core sampling to protecting the freshly laid pavement is presented.

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44438. CONTRACTORS AND ENGI-NEERS. Rigs ready to work at 40 below as antarctic job nears completion. (Contractors and engineers, Oct. 1956. v. 53, no. 10, p. 84-85, illus.)

Contains description of low ground pressure caterpillar D8 tractors and other equipment designed and built to withstand cold weather and rough operating conditions. The tractor, which weighs 70,000 lb. has a ground pressure of only 4 psi, and 54 in.-wide tracks of special steel. Construction activities in the Antarctic preparatory to the IGY are discussed briefly. Copy seen: DLC.

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44439. CONTRACTORS AND ENGINEERS. Swiftly erected shelter strong against wind, cold. (Contractors and engineers, Oct. 1956. v. 53, no. 10, p. 119.)

Contains brief description of an arctic shelter developed by the U. S. Army Corps of Engineers; it is capable of withstanding winds up to 100 m. p. h. and snow loads up to 75 lb./sq. ft. In a test at Fort Churchill, a 20 x 48 ft. structure was erected in 65 man-hours by unskilled troops working in temperatures of —35° F. The shelter can be erected in 90 min. by seven men under ideal conditions.

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44440. CONTRACTORS AND ENGINEERS. Winterized equipment wins first round in Antarctic battle. (Contractors and engineers, June 1956. v. 53, no. 6, p. 120-21, illus.)

Contains brief account of the use of specially constructed caterpillar tractors operating under extreme climatic conditions. The tractors are low-ground pressure D8, D4, and D2 crawlers. In storage, the Cats are lined up in the open air, with snow blocks between the machines, and covered with tarpaulins. In a tractor train the D8's each pull three sleds for a total tractor payload of 60 tons.

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4441. CONWAY, H. J. Ordnance in the Arctic. (Ordnance, May-June 1950. v. 34, no. 180, p. 429-31, illus.)

Contains brief summarization of Ordnance accomplishments with low-temperature tires, fuels, and lubricants. Five greases were tested on "Operation Greaseball," which consisted of two %-ton and 14 2½-ton trucks that travelled from Aberdeen, Md., in Aug. 1948 to Fairbanks, Alaska, via the Mojave Desert. A satisfactory global grease and improved arctic engine oil were obtained.

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4442. COOK, DAVID RUSSELL, 1922- . Preliminary studies of the Tiphysinae of the United States; Acarina: Pionidae. (Entomological Society of America. Annals, May 1956. v. 49, no. 3, p. 263-74, 3 plates.) 7 refs.

Contains a key and descriptions of 11 species, three described as new. Tiphys (Tiphys) ornatus, occurring in Alaska is included. Copy seen: DLC.

44443. COOK, EDWIN FRANCIS.
1918— A contribution toward a monograph of the Scatopsidae (Diptera), part III; the genus \*Rhezoza\* Enderlein.
(Entomological Society of America. Annals, Jan. 1956. v. 49, no. 1, p. 1-12, 5 illus.) 2 refs. Issued also as Paper no. 3283, Scientific Journal Series, Minnesota Agricultural Experimental Station, St. Paul.

Contains discussion and description of the genus and its groups, keys to the groups and species, and descriptions of 11, seven of them new. R. similis comb. (Great Whale River, Quebec) is included.

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4444. COOK, EDWIN FRANCIS, 1918- . A contribution toward a monograph of the Scatopsidae (Diptera), part IV; the genus Swammerdamella Enderlein. (Entomological Society of America. Annals, Jan. 1956. v. 49, no. 1, p. 15–29, 6 illus.) 8 refs.

Contains a generic description, keys to the males and females of North American species and descriptions of 14, ten described as new. S. acuta n. sp. (Pajala, Norrbotten, Sweden), S. chillcotti n. sp. (Churchill, Manitoba) and S. pusilla (Anchorage, Alaska), are included.

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44445. COOK, **EDWIN** A contribution toward a mono-1918- . graph of the Scatopsidae (Diptera), part VI; the genera Scatopse Geoffroy and Enderlein. (Entomological Holoplagia Society of America. Annals, Nov. 1956. v. 49, no. 6, p. 593-611, 7 illus.) Pub. also as: Paper No. 3501, Scientific Journal Series, Minnesota Agricultural Experiment Station, St. Paul.

Contains discussion and descriptions of these genera of minute black flies, a key to the males and females of Scatopse, and descriptions of 15 species of which six are new. Four of the species are recorded in the North: S. notata (Alaska), S. lapponica (Swedish Lapland, northern Manitoba, Northwest Territories, Labrador, Yukon Territory), S. uncinata n. comb. (Cold Bay, Alaska) and S. flavocincta (Abisko, Swedish Lapland). Parts 1, 3, and 4 are listed as No. 39340 and supra, pts. 2 and 5 do not deal with arctic forms.

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COOK, EDWIN FRANCIS, 1918—, see also Benschoter, C. A., and E. F. Cook. A revision . . . Omophron . . . 1956. No. 43964. 44446. COOK, FRANK A. Additional notes on mud circles at Resolute Bay, Northwest Territories. (Canadian geographer, 1956. No. 8, p. 9-17, 5 illus., 5 tables.) 4 refs. In sequel to No. 36015.

Methods of excavating some 50 mud circles on Cornwallis Island, summers 1953-1955, are described. The 1,429 excavated stones are classified by shape, nearly half of them (44 percent) sharply angular. Contents of seven plugs exhumed en masse are classified according to volume and weights of fines and stones. Marked features of these circles are the unweathered appearance of stones on top compared with those round about, and the apparent power of the circles to recuperate when disturbed. Findings strengthen the theory that the circles are injection phenomena in which fines flow upward and spread out at the surface. Copy seen: DGS.

44447. COOK, FRANK A. Near surface soil temperature measurements at Resolute Bay, Northwest Territories. (Arctic, 1955, pub. 1956. v. 8, no. 4, p. 237-49, 2 illus., graphs, 4 tables.) 8 refs.

Based on daily readings 1951-1955 by meteorological observers at Resolute, supplemented by author's measurements in summers 1953-1955 and winter 1953-1954. Pt. 1 concerns soil temperatures within the six-ft. overburden of frozen gravel and shattered rock overlying limestone bedrock. Daily, monthly and annual average soil temperatures and the influence on them of air temperatures, insolation, and precipitation are discussed. Pt. 2 is a preliminary report on a special study made in fall 1955 on the freezeback in the active layer. Readings were taken at four-hourly intervals, Aug. 28-Oct. 1. The period of the "zero curtain" (period necessary for soil water to freeze). penetration of the 32° F. freezing line, and moisture content and migration are discussed. Copy seen: DLC.

44448. COOK, FRANK B., and D. L. GOODMAN. Design of the Eklutna Project, Alaska. (American Society of Civil Engineers, Power Division. Journal, Dec. 1956. v. 82, no. P06, paper 1132, 26 p. illus., diagrs., table.)

The design, purpose, and function of the Eklutna Project, a hydroelectric power development of the U. S. Bureau of Reclamation near Anchorage, are described. Constructed during 1951–1955, it provides an estimated average annual firm energy of 140 million kw-hrs. The power plant is located on the Glenn Highway with transmission lines running to Palmer and Anchorage. Illustration of plant and profile drawings of major project structures are included.

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44449. COOK, JOHN CALL, 1918—. An electrical crevasse detector. (Geophysics, Oct. 1956. v. 21, no. 4, p. 1055–1070, illus., diagrs.) 8 refs.

Contains description of the geophysical method devised for the United States Dept. of Defense for detecting crevasses. Results of field tests are reported. method is similar to the 4-electrode method of measuring earth resistivities but differs in that an alternating dielectric displacement-current field is used instead of a conduction-current field, since ice is essentially a non-conductor. systems tested in Greenland and Antarctica continuously indicate or record the capacitive transfer reactance between pairs of electrode sleds or vehicles. The systems have been operated successfully at speeds up to 20 m. p. h. Representative crevasse-detector recordings and circuit diagrams are presented. Some applications of the method in other fields Copy seen: DLC. are suggested.

44450. COOK, JOHN CALL, 1918—. Some observations in a northwest Greenland crevasse. (American Geophysical Union. Transactions, Dec. 1956. v. 37, no. 6, p. 715–18, illus., diagr.) Ref.

An average-size crevasse located about 65 km east of the coast on Hayes Peninsula was studied in detail during two months in the summer of 1955. It measured about 300 m. long and 15 m. deep but was invisible from the surface. A wide variety of ice forms was observed. Temperatures remained nearly constant but water in its lower portion fluctuated with the weather. Acoustical characteristics are noted. The interior of the crevasse is illustrated, and several cross-sectional diagrams are given.

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44451. COOK, PAUL M. Consolidation characteristics of organic soils. (In: National Research of Canada. Associate Committee on Soil and Snow Mechanics. Proceedings of the Ninth Canadian Soil Mechanics Conference, December 15 and 16, 1955. Ottawa, Oct. 1956. Technical memorandum no. 41, p. 82–87, 4 graphs.)

A compilation of test data, with graphs showing that a relation exists between the coefficient of compressibility and moisture content over a wide range of soils, from pure peat to organic clay silts. Relationship is also shown between moisture contents and such soil pr perties as specific gravity, void ratio, and submerged weight. These relationships are sufficient to permit calculation of settlement without lengthy consolidation tests.

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44452. COOKE, HAROLD CASWELL, 1884-, and W. A. JOHNSTON. Gold occurrences of Canada, summary account. Ottawa, King's Printer, 1932. 61 p. maps (1 fold.), diagr., tables. (Canada. Geological Survey. Economic geology series, no. 10.) 10 refs.

In two parts. Pt. 1, dealing with gold lode areas, was superseded by No. 3394 of Arctic Bibliography, Pt. 2, on placer gold, includes (p. 51-56) description of the Klondike region, and brief note on Big Salmon and Mayo regions, Yukon Territory.

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44453. COOKE, WILLIAM BRIDGE, 1908- . The genus Phlebia. (Mycologia, May-June 1956. v. 48, no. 3, p. 386-405.) Pub. also as: Scientific Paper No. 1439, Washington Agricultural Experimental Stations, Pullman, Project No. 1047.

Contains a discussion of this fungus genus, a key to the species and descriptions of nine, seven new. P. radiata, on the rotting wood of hardwood and coniferous trees and shrubs (73 hosts listed) occurs in Alaska. A list of doubtful and excluded species is appended.

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44454. COOKSON, BRIAN A. The cardiac effects of certain hypotensive drugs and muscle relaxants in hypothermia. (Royal Society of Medicine, London. Proceedings, 1956. v. 49, no. 6, p. 364-65, illus.) Refs.

Following a description of severe bradycardia and other conditions in the hypothermic dog below 19° C., the author discusses his work on the quaternary nitrogen compounds; their action in relieving bradycardia in hypothermic animals is explained.

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**44455. COOLIDGE, KARL R.** The North American species of the genus *Erebia*: Lepidoptera. (Entomological

news, Feb. 1908. v. 19, no. 2, p. 73–75.)

Contains descriptions of ten species and varieties, of which seven are recorded in Alaska and "Arctic America."

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**44456. COOPER, A. C.** Arctic air base. (Royal Engineers journal, Dec. 1955. v. 69, no. 4, p. 339–44, photos.)

Describes organization of the work, port facilities, construction of the main airstrip, and certain details of the structures and utilities at Thule, Greenland as performed by the United States Corps of Engineers. A list of the mechanical equipment used for construction is included.

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COORD, A. B., see Mavor, G. E., and others. Potassium and the hypothermic heart. 1956. No. 46663.

44457. COPLAND, A. D. Natural cold storage in the Canadian North. Ottawa, Feb. 1956. 8 p. 4 diagrs. (Canada. Defence Research Board. Arctic report, no. 3/55.)

Several storage cellars constructed in permafrost at Aklavik, Cape Bathurst, Herschel Island, and other points in the Canadian Arctic are described and diagrammed. The type found most effective is constructed by digging vertical shafts to a depth of six ft., and forming a chamber at this depth measuring 8-14 ft. sq. with a total depth of about 20 ft. Trap doors cover the shaft entrance which is further protected by a slanting roof covered with turf. A less effective but simpler construction consists of a shallow horizontal tunnel dug into a sand or gravel ridge. Problems which restrict the use of such cellars include excavation difficulties, thawing of the active layer, Copy seen: CaMAI. and drainage.

44458. COPP, STANLEY S., and others. Protection of utilities against permafrost in northern Canada. (American Water Works Association. Journal, Sept. 1956. v. 48, no. 9, p. 1155–68, diagrs., table.) 10 refs. Other authors: C. B. Crawford and J. W. Grainge.

Contains results of preliminary studies from 1953-55 on soil temperatures around water and sewer pipes under moss and bare ground at Yellowknife relative to the design of water-supply installations in permafrost regions. The method of measurement and instruments used are described. The climatic and soil characteristics of the area are outlined, and

its underground water system (designed in 1945) is described. Data are tabulated and graphed on ground temperatures at depths of 4–10 ft. for selected months, freeze and thaw penetration under a moss cover and under bare ground, annual soil-temperature variations to a depth of 13 ft., the relation between air and soil temperature, and grain size of the soils investigated. Underground systems of Aklavik, Churchill, Dawson, Fairbanks, Flin Flon, Fort Smith and Whitehorse are also briefly described.

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44459. COPP, STANLEY S. Two water supply systems of northwestern Canada. (In: Alaskan Science Conference . . . .

1952. Proceedings, pub. 1954, p. 62-63.) The supplies at Yellowknife and Fort Smith are described. In the first, the water is heated Nov.—May. Outgoing water from the pumphouse is maintained at about 41° F. and during March when 80 percent of the outgoing water is recirculated the temperature of the return water is about 40° F. The Fort Smith water varies from 32.8° F. in Jan. to 65° F. in Aug. In Jan. water leaving the plant at 42° F. is cooled to 35° F. at the end of the system. Bleeders at dead-ends are utilized.

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44460. COQUILLETT, DANIEL WIL-LIAM, 1856-1911. New Diptera from North America. (U. S. National Museum. Proceedings, Sept. 12, 1902. v. 25, no. 1280, p. 83-126.)

Four new genera and 94 new species from various regions are described, among them three from Alaska: Tanypus algens (Popof Island), Simulium fulvum (Sitka and Kukak Bay), and Muscopteryx obscura (St. Paul Island).

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44461. CORABOEUF, ÉDOUARD, and others. Hypothermie et rechauffement rapide, par voie sanguine, chez l'animal. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 1, p. 118-21, illus. table.) Ref. Text in French. Other authors: F. Zacouto, R. Gaillard and R. Saumont. Title tr: Hypothermia and rapid rewarming of the animal, by way of the blood.

Contains description of apparatus and method of extracorporeal cooling and rewarming of the circulating blood and through it the organism. The device is for use in work with rabbits; its advantages are discussed. Copy seen: DNLM.

44462. CORABOEUF, ÉDOUARD, and others. La repolarisation du myocarde au cours de l'hypothermie chez trois espèces de mammifères; cobaye, spermophile (Citellus citellus) et rat blanc. (Académie des Sciences, Paris. Comptes rendus, 1956. t. 243, no. 21, p. 1673-76; illus.) 4 refs. Text in French. Other authors: C. Kayser and Y. M. Gargouil. Title tr: Repolarization of the myocard during hypothermia in three mammals: the guinea pig, gopher (Citellus citellus), and white rat.

A comparative study of electrograms and electrocardiograms of the three species at normal and two hypothermic levels. The differences found and isolated are attributed to variations in metabolic "equipment" and "behavior" of the heart of the three animals.

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CORABOEUF, ÉDOUARD, see also Latné, P., and others. Hypothermie centrale rapide . . . 1956. No. 46214.

44463. CORBEL, JEAN, 1920— . Le climat des régions voisines du Pôle Nord. (Norois, Oct.—Dec. 1956. 3° année, no. 12, p. 389—98, graphs, map, table.) 13 refs. Text in French. *Title tr:* The climate of regions near the North Pole.

Contains a general discussion of the temperate regime at the surface and aloft in the north polar area. Typical vertical temperature distributions to above 8,000 m. are diagrammed for Thule, Alert, Spitsbergen, and Eureka. Ice island data are also cited. Monthly mean, absolute maximum, and absolute minimum temperatures are tabulated for a number of temporary and permanent arctic stations. Copy seen: DLC.

44464. CORBEL, JEAN, 1920—. L'essor du Groenland. (L'information géographique, May-June 1956. Année 20, no. 3, p. 98–102, 2 text maps.) Ref. Text in French. *Title tr:* The progress of Greenland.

Reviews former Danish policy isolating the Greenland Eskimos from the outside world, its effects, Greenland's present status as part of Denmark. The economic importance of northward migration of fish is noted, also experiments in sheep raising, discovery of lead-zinc deposits in the northeast and approaching exhaustion of cryolite deposits. Future utilization of Greenlanders in mining operations, use of wind and water power for energy, advances in agriculture in the

southeast, increase in reindeer herding (started in 1953), and development of mineral industries are discussed. Tourism and increasing use of Greenland airfields on transpolar flights are mentioned as factors in Greenland's future. Map shows present and planned air routes.

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44465. CORBEL, JEAN, 1920—. L'hiver dans l'arctique Nord-Américain, de l'Alaska au Groenland. (Revue Canadienne de géographie, Apr.-Sept. 1956. v. 10, no. 2-3, p. 81-96, 17 charts, graphs, 3 tables.) 18 refs. Text in French. Summary in English. Title tr.: Winter in the North American Arctic, from Alaska to Greenland.

The Arctic is defined as those regions having more than 300 days of frost, the sub-Arctic, 270-300 days of frost. Cold poles are on the Yukon-Alaska border below the Arctic Circle, northwest Ellesmere, and center of the Greenland icecap. Temperatures are discussed for the Oct.-Nov., Dec.-Jan., Feb.-Mar. periods, with special emphasis on the high temperatures on the eastern side of Baffin Bay-Davis Strait relative to those on the western side. Zones of higher precipitation are along the Atlantic and Pacific coasts; dry zone extends from northeast Greenland across the Canadian Arctic Islands. Windiest regions are central Greenland and coastal Alaska. Effect of wind-chill on human settlement is briefly discussed. Climatic data are given in charts and graphs. Biographical sketch of the writer is given by E.-M. Bernard on p. 119 of this issue. Paper is discussed in Revue de géographie de Lyon 1957, t. 32, no. 2, p. 181-83. Copy seen: DGS.

44466. CORBEL, JEAN, 1920- . A new method of study for limestone regions. (Revue Canadienne de géographie, Oct.-Dec. 1956. v. 10, no. 4, p. 240-42, table.)

Rate of erosion in limestone can be measured if the average limestone content of the water and the total annual run-off are known. Erosion rates may be compared in regions of different climates, and time estimated for a bed of limestone to erode completely in a given climate. Annual rates of erosion (to the 1/1000 mm. and 1/100,000 in.) in some typical districts are given according to seven climatic types, two of them arctic. The "dry arctic," is represented by Blomstrandhalvøya (Vestspitsbergen),

Swedish Lapland, Baltic islands, and interior Alaska (Tanana); and the "humid arctic," by Svartisen (North Norway), and Gold Creek (Juneau, Alaska).

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44467. CORBEL, JEAN, 1920 - Svalbard et Laponie; phénomènes périglaciaires au Svalbard et en Laponie. (Biuletyn peryglacjalny, 1956. nr. 4, p. 47-54.) 77 refs. Text in French. Title tr.: Svalbard and Lapland; periglacial phenomena in Svalbard and Lapland. One of the reports of the Commission of Periglacial Morphology, International Geographical Union.

Reviews literature on Svalbard, northernmost Norway, Sweden, Finland, and Kola Peninsula, dealing with general geology and climate, solifluction, patterned ground, frozen ground, frost action, permafrost, karst regions, erosion, etc.

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CORBEL, JEAN, 1920-, see also Péguy, C. P., and J. Corbel. Chronique arctique. 1956. No. 47293.

CORDOVA, C., see Palma, G., and others. Studio dell' influenza dei tessuti periferici . . . 1956. No. 47237.

44468. CORLETT, A. V. Thirty years of mineral development in Newfoundland. (Canadian mining journal, Dec. 1956. v. 77, no. 12, p. 61-66, illus., text map.)

Surveys the geology and topography of Newfoundland (excluding Labrador), then outlines exploration and mining development 1926-1955, particularly since 1949, including Labrador. Companies active in Labrador and their current outlook are noted, including Ventures, Newfoundland and Labrador Corp., Canadian AMCO Ltd., British Newfoundland Corp., Labrador Mining and Exploration Co. Prospecting and exploration at the Wabush Lake iron ore project are noted, also plans for 45-mi. railroad to connect with Quebec North Shore & Labrador Railway. Copy seen: DGS.

44469. CORLETT, J. Dry weight and fat content of plankton near Bear Island 1949-52. (International Council for the Esporation of the Sea. Annales biologiques 1952, pub. 1953. v. 9, p. 8-9, illus., table.) 2 refs.

Report on plankton collected by the Ernest Holt along lines south and west of Bjørnøya usually from a column of 50 meters. Dry weight and fat determinations indicate that the plankton was

richer in 1949 and 1950 than in the two following years. The maximum over the deep water was in May-July, in shallower areas in August. **Copy seen:** DI.

44470. CORNELIUSSEN, OLUF AABEL, 1850- . Naeverhougens jernglansforekomster. (Geologiska föreningen, Stockholm. Förhandlingar, 1878. bd. 4, häfte 1, no. 43, p. 2–15.) Refs. in text. Text in Norwegian. Title tr.: The Naeverhaugen hematite deposit.

Discusses criticism and interpretations of Gumaelius, q. v.; clarifies the nature of iron ore occurrence in this north Norwegian locality. **Copy seen:** DGS.

CORNMAN, W. W., see Mardoian, F. M., and others. How to winterize construction equipment. 1956. No. 46617.

44471. CORNWALL, HENRY ROW-LAND, 1913- . A summary of ideas on the origin of native copper deposits. (Economic geology, Nov. 1956. v. 51, no. 7, p. 615-31, 4 tables.) 134 refs.

Contains a review of the literature on native copper deposits, including references to the Coppermine-Great Bear Lake and Bathurst Inlet regions, Northwest Territories; White and Copper River regions, Alaska; central Siberia, Novaya Zemlya, and Komandorskiye Ostrova, U. S. S. R. Native copper occurs in a wide variety of environments including mafic lavas, hypabyssal diabasic intrusives, ultramafic intrusives, clastic sedimentary rocks, and the oxidized zone of sulfide deposits. Seven possible natural origins of it are considered.

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44472. COSTIN, A. B. A note on gilgaies and frost soils. (Journal of soil science, Jan. 1955. v. 6, no. 1, p. 32-34, 6 illus. on 3 plates.) 5 refs.

Contains brief comparison of Australian gilgai soils (alternate hummocks and hollows showing some degree of regularity) and patterned ground of high latitudes. In both types, suitable subsoils and climatic alternation are necessary, effects of slope on pattern produced are similar, and surface cracking and surface freeze phenomena are comparable. Illus. show patterned ground near Riksgränsen and Abisko, northern Sweden, and Narvik, northern Norway.

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COTTEN, MARION de VEAUX, 1927-, see Brown, T. G., and M. de V. Cotten. Evaluation... factors enhancing cardiac force... hypothermia. 1956. No. 44157.

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44473. COTTLE, MERVA, and L. D. CARLSON. Turnover of thyroid hormone in cold-exposed rats determined by radioactive iodine studies. (Endocrinology, July 1956. v. 59, no. 1, p. 1-11, illus., tables.) 18 refs.

A study of male rats exposed to 5° C. for 1–180 days. Twenty-four hour conversion ratios were above controls in animals tested after 8–60 days of exposure. Biological decay data also indicated increased turnover of thyroid hormone during early and prolonged exposure. Gland weight and I<sup>31</sup> content four hours after injection gave no consistent or sensitive indications of hormone secretation.

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**44474.** COTTLE, WALTER, and L. D. CARLSON. Chemical regulation of heat production in cold-adapted rats. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 41–42, table.)

Cold-adaptation was found greatly to enhance chemical regulation of heat production. Adrenal medulectomy suggests that this response is mediated by epinephrine as well as by sympathetic endings.

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44475. COTTONY, H. V. Some observations of atmospheric radio noise in the Arctie. Boulder, Col., May 1, 1956. 11 l. and 35 l. diagrs., graphs, map. (U. S. National Bureau of Standards. NBS project 8220-10-8255 (1431); NBS report 3582.) 4 refs.

Noise intensities were measured twice daily from shipboard during the period from July 6-Aug. 15, 1947, at frequencies ranging from 15 kc.-25 mc. Measurements were made in the North Pacific, Bering Sea, and the Arctic Ocean from latitudes 22°-72° N. Average noon and midnight observations are graphed for each of 25 days, and median values are compared to theoretical data. The order of magnitude of the measured values agrees reasonably well with predicted values except at the high frequency end of the band. Copy seen: DBS.

44476. COUES, ELLIOTT, 1842-1899. A check list of North American birds. Salem, Mass., F.W. Putnam & Co., 1873. 137 p.

A simple catalog of scientific and vernacular names of 635 species with

some unnumbered varieties and subspecies (778 by actual count). Some Alaska and Greenland species are included. This work was reprinted in 1879, and a second edition published in 1882 (infra). Emendations were offered by R. Ridgway (No. 47584).

Copy seen: DLC.

44477. COUES, ELLIOTT, 1842–1899. The Coues check list of North American birds; 2d ed. revised to date, and entirely rewritten under direction of the author, with a dictionary of the etymology, orthography, and orthoepy of the scientific names, the concordance of previous lists, and a catalogue of his ornithological publications. Boston, Estes and Lauriat, 1882. 165 p.

Contains an analysis of the two editions, with a list of ten "subtrahend names" and another list of hundred and ten "addend names", including at least 32 species native to Alaska, Greenland and "arctic America," also remarks on the use of the names. The check list itself, contains 888 species. Copy seen: DLC.

COULTER, HENRY WELTY, 1920—, see Juhle, R. W., and H. W. Coulter. Mt. Spurr eruption . . . 1953. 1956. No. 45834.

COURBIER, R., see Vernejoul, R. de., and others. Tentatives de prolongation de l'arrêt circulatoire sous hypothermie . . . 1956. No. 48726.

court, Arnold, 1914—, see Sissenwine, N., and A. Court. Climatic extremes . . military equipment. 1951. No. 48027.

COURTEMANCHE, ALBERT, 1908–, see Potzger, J. E., and A. Courtemanche. A series of bogs . . . 1956. No. 47436.

44478. COUVES, CECIL MELVILLE, and others. Hematologic changes in hypothermic dogs. (Surgical forum, 1956. v. 6, p. 102–106, tables.) 20 refs. Other authors: R. C. Overton, Jr., and W. Eaton.

Report of investigation on coagulation and bleeding times; hemoglobin and hematocrit; platelets, clot retraction, prothrombin time, etc. in dogs cooled to 25°–18° C. The overall coagulation mechanism was not found to be seriously affected by hypothermia. A few animals showed prolonged bleeding time to a dangerous degree; this condition was completely reversible upon rewarming.

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44479. COVAS, GUILLERMO. Taxonomic observations of the North American species of *Hordeum*. (Madroño, Jan. 1949. v. 10, no. 1, p. 1–21, 2 plates.) 13 refs.

Contains a discussion of this genus of grasses, a table of chromosome numbers in North American species, a key, three tables of comparative differentiating characteristics of various species. Twelve species are described, of which three are new, and H. brachyantherum is native to Alaska, Aleutian Islands, Newfoundland and Labrador.

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44480. COVINO, BENJAMIN G., and A. H. HEGNAUER. Electrolytes and pH changes in relation to hypothermic ventricular fibrillation. (Circulation research, Nov. 1955. v. 3, no. 6, p. 575–80, tables.) 27 refs.

Account of investigation on coronary arteriovenous differences in N, K, Ca, Mg, Cl and H ions. Hypercapnic hypothermic (24° C.) dogs were used. The data suggest that ventricular fibrillation of hypothermia is related to a gain of Ca and a loss of K and H ions by the myocardium.

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COVINO, BENJAMIN G., see also Beavers, W. R., and B. G. Covino. The effect of glycine in immersion hypothermia. 1956. No. 43915.

COVINO, BENJAMIN G., see also Beavers, W. R., and B. G. Covino. Immersion hypothermia: effect . . . glycine. 1956. No. 43916.

COVINO, BENJAMIN G., see also Hegnauer, A. H., and B. G. Covino. Myocardial irritability . . . hypothermia. 1956. No. 45488.

COVINO, BENJAMIN G., see also Hegnauer, A. H., and B. G. Covino. Reappraisal of ventricular thresholds in hypothermia. 1956. No. 45489.

COX, LEONARD MARTIN, 1870—, see U. S. Alaska Railroad Commission. Railway routes in Alaska . . . 1913. No. 48534.

44481. COX, P. B. Town site or frost heaves. (Royal Canadian Mounted Police quarterly, Oct. 1956. v. 22, no. 2. p. 95.)

Notes formation seen from the air in Aug. 1944, on Victoria Island about 100 mi. west of Cambridge Bay; it resembled a town site about ten blocks square, laid out in rectangular blocks, divided by ditches or paths. Similar formation near Cape Krusenstern (68° 23′ N. 113°55′ W.) is mentioned. *Copy seen:* DGS.

CRABTREE, ROBERT H., see Osborne, D., and others. The problem of Northwest . . . 1956. No. 47203.

44482. CRAIGHEAD, JOHN JOHN-SON, 1916—, and D. S. STOCKSTAD. Measuring hunting pressure on Canada geese in the Flathead Valley. (North American Wildlife Conference, 21st. New Orleans. Transactions, 1956. p. 210–38, illus., tables.) 10 refs.

Account based on data gathered at this refuge in Montana during 1953-55. The area and methods of investigation are outlined, and information is presented on population levels: relations of kill to bird number, of movement to number, and of kill to movement, hunting pressure, etc. The harvest in killed and crippled birds is appraised and suggestions for increasing the number of birds to enable a rise in kill, are made.

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CRANMORE, D., see Gell, C. F., and others. Rapid freezing . . . living mammals . . . 1956. No. 45054.

CRANSTON, W. I., see Gerbrandy, J., and others. De mond-temperatuur. 1955. No. 45078.

44483. CRARY, ALBERT PADDOCK, 1911- . Arctic ice island research. (In: Advances in geophysics, 1956. v. 3, p. 1-41, diagrs., illus., graphs, maps, tables.) 53 refs.

The history of exploration of the Arctic Ocean and the discovery of ice islands are outlined, and a synopsis of scientific investigations made on T-3 is given with summaries of the general results obtained to date. Research conducted on T-3 included: oceanography of the Arctic Ocean, its ice cover, and meteorological conditions; the properties of the ice island itself, its surface and subsurface features, flora, fauna, and inorganic surface deposits. Seismological studies were made of the force of island rotation, and its vertical and lateral movements both of short and long duration. The characteristics of ice islands, their correlation with the ice shelf, summer conditions on T-3, surface deposits on T-1, T-3, and the Ellesmere ice shelf, and the density and stratification of the ice to a depth of 110 ft. are described. The age of T-3 and its possible origin are discussed, and the formation of the ridge and trough systems is examined. The causes for the clockwise rotation of the island are analyzed mathematically. *Copy seen:* DLC.

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44484. CRARY, ALBERT PADDOCK, 1911— Geophysical studies along northern Ellesmere Island. (Arctic, 1956. v. 9, no. 3, p. 155–65, 2 text maps, diagrs., graphs.) 7 refs.

During late June 1954 the writer and G. F. Hattersley-Smith (Ellesmere Ice Shelf Expedition) made 19 line soundings, three hydrographic stations, and took 13 Phieger bottom core samples along the Ellesmere coast between Markham and M'Clintock Bays (approx. 83°00'-15' N. 71°-77° W.) In late summer, 25 seismic soundings (19 successful) were attempted through the ice shelf from Ward Hunt Island to Cape Discovery (approx. 74°-77° W.). Some results of the bathymetric program are given, also temperatures and salinities, and magnetic declinations. Soundings data are supplemented by those of R. G. Marvin on the Peary Expedition 1906 in the same area. Marvin's work is discussed by V. C. Bushnell, q.v. Copy seen: DLC.

CRARY, J. H., see Helliwell, R. A., and others. The "nose" whistler . . . 1956. No. 45509.

CRAWFORD, CARL B., see Copp, S. S., and others. Protection of utilities . . . permafrost . . . 1956. No. 44458.

CRAWFORD, HAL, see Chaplin, H., and others. Preservation of red cells at -79 C. 1956. No. 44309.

44485. CRAWFORD, JOHN E., and J. PAONE. Facts concerning uranium exploration and production. Washington, D. C., U. S. Govt. Print. Off., 1956. vii, 130 p. 13 illus., fold. diagr., fold. map. (A Bureau of Mines handbook) approx. 325 refs.

Contains general geological and mineralogical information, and deals further with uranium prospecting (favorable areas of U. S.), sample testing and mineral specimens, maps on uranium areas, radioactivity counters, prospecting and staking claims, exploration and development, mining, milling, refining. Under each section are selected references. Information offices for each of 18 uranium-bearing areas in the U. S., including Alaska, selected maps and references are listed. Copy seen: DGS.

44486. CRESSON, EZRA TOWN-SEND, 1838-1926. The Cresson types of Hymenoptera. Philadelphia, Academy of Natural Sciences, 1916. 141 p. (American Entomological Society. Memoirs no. 1.)

Contains a list of 2,737 species "described by the author, arranged alphabetically under each family, with reference to the original description, sex, number of the type-specimen as recorded in the catalogue of types in the collection of the American Entomological Society, locality and condition of the specimens as found during the winter of 1913–14." At least 15 of the species are native to Alaska, the Aleutian Islands and northern Canada. Dr. Cresson's entomological writings (69) during 1861–1911 are listed. This work is supplemented by No. 44849.

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44487. CRESSON, EZRA TOWN-SEND, 1876–1948. Descriptions of new genera and species of the dipterous family Ephydridae. Paper 8. (Entomological news, Mar. 1930. v. 41, no. 3, p. 76–81.)

Contains descriptions of 12 new species from various regions, among them Hyadina macquarti n. sp. from Skagway and from Anchorage, Alaska. Papers 1-7 of this series do not contain arctic material.

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44488. CRESSON, EZRA TOWN-SEND, 1876–1948. New North American Diptera: Scathophagidae. (Entomological news, Apr. 1918. v. 29, no. 4, p. 133– 37.)

Contains descriptions of nine new species from various regions, among them Scathophaga nigrolanata n. sp. from the west coast of Greenland, 1891.

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44489. CRESSON, EZRA TOWNSEND, 1838–1926, and E. T. Cresson, Jr. The types of Hymenoptera in the Academy of Natural Sciences of Philadelphia other than those of Ezra T. Cresson. Philadelphia, Academy of Natural Sciences, 1928. 90 p. (American Entomological Society. Memoirs no. 5.)

Contains an alphabetical list of some 1,300 type-species and subspecies arranged by families, with reference to sex, specimen number, locality and conditions. Another list of the type species, arranged by the authors who described them, is appended, p. 75–90. A few species are recorded from Alaska, northern Canada and Greenland. This posthumous paper,

completed and edited by Dr. E. T. Cresson, Jr., is supplementary to No. 44486.

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CRETCHLEY, R. R., see Seaman, E. A., and others. A telemetry system . . . body temperatures and heart beats . . . human . . . 1956. No. 47867.

44490. CRIDDLE, STUART. Drummond's vole in Manitoba. (Canadian field-naturalist, Apr.-June 1956. v. 70, no. 2, p. 78-84, illus., 4 tables.)

Contains brief description, measurements and notes on breeding and young, nests, etc.; tabulated data are given on Microtus pennsylvanicus drummondii, relative abundance; its food, swimming, fighting, etc. are sketched. Its economic status is considered: pest of cultivated grains but food for some valuable fur-bearing animals; and measures for control are outlined. The study of this vole, which found throughout the province, is based partly on specimens from Churchill.

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of wolves hunting caribou. (Journal of mammalogy, Aug. 1956. v. 37, no. 3, p. 337-46.)

Attempts of the Alaskan wolf (Canis lupus) to catch barren ground caribou (Rangifer arcticus) were studied in various parts of Brooks Range, Alaska, during 13½ months of 1953-54. Moving pictures of caribou and wolves were being taken for the Walt Disney Studio. "... wolves have great difficulty catching healthy adult caribou, and even calves are not often overtaken except in the confusion of a large herd." At least half of the kill observed involved crippled or sick caribou representing 1.8 percent among stragglers, and even lower among the main herds. \*\*Copy seen:\*\* DSI.

44492. CROASDALE, HANNA THOMPSON, 1905— . Freshwater algae of Alaska 1; some desmids from the interior, part 2, Actinotaenium, Micrasterias and Cosmarium. (American Microscopical Society. Transactions, June 1956. v. 75, no. 1, p. 1–70, illus., tables, map.) Over 100 refs.

Description of some 250 forms of these algae collected from all parts of Alaska during summer 1951. In addition to morphological data, such are supplied on occurrence, relations with other forms, location of find, altitude, pH and type of locality. The paper is richly illustrated

with camera lucida drawings. The first part of this study was listed as No. 39,400. **Copy seen:** DNLM.

**44493.** CROCKER, ROBERT L., and J. MAJOR. Soil development in relation to vegetation and surface age at Glacier Bay, Alaska. (Journal of ecology, July 1955. v. 43, no. 2, p. 427-48, 4 illus., 16 graphs, 2 tables.) 13 refs.

Ice in this region (58°30'-59° N., 136°-137° W.) has receded about 60 mi. since the post-Pleistocene "Little Ice Age." From the most recently deglaciated areas to the terminal moraine, the vegetation sequence is: bare surface, pioneer stage (Salix, Dryas, Epilobium, etc.), alder thicket, spruce-cottonwood-alder, spruce forest. Field observations of soil properties were made in summer 1952 during an expedition led by D. B. Lawrence (q. v.). Laboratory analyses of soil samples are described and graphed. Rate of development of some characteristics of the forest floor, and changes in pH, organic carbon, total nitrogen, calcium carbonate, and bulk density of fine earth are reported and related to surface age and developing vegetation. Climatic data are given for meteorological stations at Gustavus, Cape Spencer and Haines. Copy seen: DLC.

44494. CROMBIE, GORDON PEERS, 1916—. Geology of the Barrington Lake area, Granville Lake division, Manitoba. Winnipeg, 1948. 16 p. fold. map 14 x 21 in., table. (Manitoba. Dept. of Mines and Natural Resources. Mines Branch. Preliminary report 47–6.) 4 refs.

Map (scale 1 in.: 1 mi.) covers area 56°45'-57° N. 100°00'-15' W., in the Lynn Lake region, 120 mi. north-northeast of Sherridon. Mapping was done in 1947. Physical geography and access are briefly described. The Precambrian bedrock consists of volcanic and sedimentary rocks of the pre-Sickle (Wasekwan) series and the post-Sickle intrusives ranging from gabbro to granite. None of the Sickle sedimentary series, found in the adjacent map-area (cf. No. No nickel-copper has been identified. orebodies of commercial importance have been discovered to date. Geology and mineralization of the properties of Lynbar Mines Ltd., Nickel Lake Mines Ltd., and Barrington Lake Copper Mines Ltd. are described. Copy seen: DGS.

44495. CRONQUIST, ARTHUR JOHN, 1919— . Notes on specimens of American plants in European herbaria. (Leaflets of western botany, May 13, 1953. v. 7, No. 2, p. 17-31.)

Includes discussion of Aster subspicatus and related species, occurring in Alaska and the Aleutian Islands; of Petasites frigidus varieties ((corymbosus, hyperboreus, nivalis, frigidus and palmatus) some native to Alaska and northern Canada, and of Senecio bivestitus recorded in Alaska and Yukon Territory. Based on a study of material in London and Paris in 1951 and 1952.

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CROSBIE, R., see Gell, C. F., and others. Rapid freezing . . . living mammals . . . 1956. No. 45054.

44496. CROSS, GEORGE C. Yukon 1955 review. (Canadian mining journal, Feb. 1956. v. 77, no. 2, p. 84, 123, text map.)

Contains report on modernization of freight-handling facilities by the White Pass and Yukon Railway; suspension of investigation of the upper Yukon River power potential in favor of the Nass River in British Columbia; dredging by Yukon Consolidated Gold Corp.; silver, lead, and zinc operations of United Keno Hill Mines, mapping by company's geological parties on Keno and Galena Hills and construction of Elsa-Keno road, 60 percent completed by end of 1955; operations of Mackeno Hill Mines at Keno Hill; copper discovery by Newmont Mining Corp. near the Yukon-B. C. border, 40 mi. northwest of Watson Lake. Copy seen: DGS.

44497. CROWLEY, FRANCIS A., and R. E. HANSON. Seismic measurements in permafrost areas of interior Alaska. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1806.)

Abstract of paper presented at the Seventh Alaskan Science Conference (AAAS): Juneau, Sept. 27–30, 1956. Measurements were made in 1953 near Fairbanks by the Air Force Cambridge Research Center. Refraction profiles successfully mapped upon surface of permafrost, but thickness measurements could not be made. Copy seen: DGS,

44498. CROWSNEST. Arts and crafts speed arctic hours; Labrador's hobby show the season's gala social event. (Crowsnest, Mar. 1956. v. 8, no. 5, p. 16–17, illus.)

Contains a brief account of an autumn

hobby show aboard the Canadian icebreaker Labrador somewhere in arctic waters. Some of the exhibits produced in the ship's hobby shop are illustrated and described. **Copy seen:** DLC.

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44499. CROWSNEST. The Labrador and the DEW Line. (Crowsnest, Jan. 1956. v. 8, no. 3, p. 13–18, 9 illus.)

Contains account of the operations of the Canadian ice-breaker Labrador as senior ship in a task group of 14 vessels delivering supplies for radar stations in the Foxe Basin area of the Eastern Arctic in 1955. Navigational control stations were installed at Cape Fisher (Southampton Island) and Cape Enauolik (Baffin Island). The work of the ice-breaker in addition to convoying, consisted of survey and hydrographic work, supply operations, communications handling, and medical responsibilities.

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44500. CROWSNEST. Labrador keeps 'em healthy. (Crowsnest, Sept. 1956. v. 8, no. 11, p. 19–20, illus.)

Medical facilities aboard the Canadian ice-breaker Labrador are described: permanent equipment is similar to that in any small hospital. The ship's crew are checked thoroughly; their general health mostly improves during cruise.

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44501. CROWSNEST. Symbol of arctic friendship; nations drawn together by exploration of North. (Crowsnest, May 1956. v. 8, no. 7, p. 14-15, illus.)

Contains a brief historical account of a desk in the White House. It is made of timbers from H. M. S. Resolute which was abandoned during the Franklin search in 1854 at 74°41′ N. 101°22′ W. The ship, found and later returned by the U. S. to Great Britain, was salvaged in 1880; the best oak timbers were used to make the desk which Queen Victoria presented to the President of the United States.

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44502. CRUICKSHANK, J. S. Summit detachment. (Royal Canadian Mounted Police quarterly, Oct. 1956. v. 22, no. 2, p. 106-107, illus.)

Describes establishment of Northwest Mounted Police camp Feb. 1898 at the summit of Chilcoot Pass on the Southeast Alaska—Yukon border during the Klondike Gold Rush. Collection of customs duties from gold miners entering the Yukon began on Feb. 26. Between 25 and 30 thousand people crossed the summit, and \$174,470 in duties was collected to June 30. Copy seen: DLC.

44503. CRUMB, FRANCIS P. Engineer support of DEW Line transportation. (Military engineer, Mar.-Apr. 1956. v. 48, no. 322, p. 111, illus.)

Contains brief description of United States Corps of Engineers cargo-discharge operations from ships into landing craft and off-loading to beaches on the eastern sector of the DEW Line. Principal means of land transportation consisted of stoneboats, heavy timber steelshod sleds, 9 x 15 ft. towed by tractors. Approximately half of the cargo consisted of drummed POL products. The remainder was palletized.

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CSAGI. See International Geophysical Year, 1957–1958. Special Committee.

44504. CUGURRA, F., and L. BALDINI. Ganglioplegici ed ipermetabolismo da freddo. (Archivio Italiano di scienze farmacologiche, 1956. v. 6, ser. 3, fasc. 3, p. 224-25.) 2 refs. Text in Italian. Title tr.: Ganglioplegics and hypermetabolism due to cold.

Contains a discussion of the action of some drugs upon the vegetative, ganglionic and central nervous components; the authors' experiments with a combination of hexametonium-novocaine, the action of nicotine, etc. Copy seen: DNLM.

44505. CUGURRA, F., and L. BALDINI. Sulla capacità dei cosiddetti ganglioplegici di bloccare la spinta ipermetabolica da freddo, 1; scopo delle ricerche, metodi e azione della nicotina. (Società italiana di biologia sperimentale. Bolletino, 1955. v. 31, no. 7–8, p. 883–85.) Text in Italian. Titte tr.: The capacity of so-called ganglioplegics to block the hypermetabolic response to cold, 1; scope of investigation, mode of action of nicotine.

Account of O<sub>2</sub>-consumption in male rats exposed for eight days to a temperature of —8 to —10° C. Nicotine in the higher doses applied (g 0.01/kg.) caused a rapid block of metabolic spurt due to cold; half of the dose caused a considerable shortening of the cold-response; the quarter dose had only a modest effect.

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44506. CUGURRA, F., and L. BALDINI. Sulla capacità dei cosiddetti ganglioplegici di bloccare la spinta ipermetabolica da freddo, 2; azione del tetraetilammonio (TEA). (Società italiana di biologia sperimentale. Bolletino, 1955. v. 31, no. 7–8, p. 886.) Text in Italian. *Title tr.:* The capacity of so-called ganglioplegies to block the hypermetabolic response to cold, 2; action of tetraethylammonium (TEA).

TEA administered in doses of g 0.025 and 0.050 per kg. had no effect on the increased O<sub>2</sub>-consumption caused by cold environment. This condition is compared with the effect of nicotine reported in the first part of this study.

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44507. CUGURRA, F., and L. BALDINI. Sulla capacità dei cosiddetti ganglioplegiei di bloccare la spinta ipermetabolica da freddo, 3; azione dell' esametonio. (Società italiana di biologia sperimentale. Bolletino, 1955. v. 31, no. 7–8, p. 887–88.) Text in Italian. Title tr.: The capacity of so-called ganglioplegies to block the hypermetabolic response to cold, 3; action of hexamethonium.

Of the dosage tried, only higher concentrations of this drug (g 0.01 and 0.018 per kg.) reduced or blocked increased oxygen consumption caused by cold. In this it differs fundamentally from TEA.

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44508. CUGURRA, F., and L. BALDINI. Sulla capacità dei cosiddetti ganglioplegici di bloccare la spinta ipermetabolica da freddo 4; azione della novocaina. (Società italiana di biologia sperimentale, Bolletino, 1956. v. 32, no. 3-5, p. 182-83.) Ref. Text in Italian. Title tr: The capacity of so-called ganglioplegies to block the hypermetabolic response to cold, 4; action of novocaine.

Account of experiments with rats kept at -10° to -8° C., and at room temperature (20° C.). In the latter, administration of novocaine in a dose of 0.175 g/kg. reduced O<sub>2</sub>-consumption by nearly 50 percent. In cold-exposed animals such, and lower doses had no effect.

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44509. CUGURRA, F., and L. BALDINI. Sulla capacità dei cosiddetti ganglioplegici di bloccare la spinta ipermetabolica da freddo, 5; azione della associazione esametonio-novocaina. (Società italiana di biologia sperimentale, Bolletino, 1956. v. 32, no. 3-5, p. 183-84.) Text in Italian. Title tr: The capacity of socalled ganglioplegics to block the hypermetabolic response to cold, 5; the action of combined hexamethonium-novocaine.

The two substances administered, combined, in two concentrations showed an inhibiting effect on metabolic rise caused by cold. The two substances appear to be pharmacologically indifferent to each other.

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CULBERSON, WILLIAM L., see Hale, M. E. and W. L. Culberson. A checklist . . . . lichens . . . 1956. No. 45389.

CULLUMBINE, H., see Pattle, R. E., and others. The effects . . . cold environment . . . toxicity of sulphuric acid mist . . . 1956. No. 47274.

44510. CUMMINS, GEORGE BAKER. Nomenclatural changes for some North American Uredinales, (Mycologia, July-Aug. 1956. v. 48, no. 4, p. 601–608.)

Includes: Uredo alaskana (Mains) Cumm. n. comb. based on Pucciniastrum alaskanum Mains. Copy seen: DA.

CUOCULO, R., see Mazzeo, F., and others. Studio . . . organi . . . ibernazione sperimentale. 1955. No. 46678.

44511. CURRAN, CHARLES HOW-ARD, 1894—. The nearctic species of the genus *Rhaphium* Meigen; Dolichopodidae, Dipt. (Royal Canadian Institute, Transactions, May 1926, v. 15, pt. 2, no. 34, p. 249–60; May 1927, v. 16, pt. 1, no. 35, p. 99–179, plates 3–6.)

Contains data on synonymy and classification of this genus, synopses of males and females, and descriptions of 59 species, of which 18 are new. At least ten species are recorded in Alaska. A catalog of nearctic species is appended.

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CURRIE, BALFOUR WATSON, 1903—, see Hunten, D. M., and others. Auroral research . . . 1956. No. 45649.

CURRIE, BALFOUR WATSON, 1903—, see also Kendrew, W. G., and B. W. Currie. The climate of central Canada . . . 1955. No. 45942.

44512. CURRY, LAVERNE L. Notes on the ecology and taxonomy of the midge Tendipes (Tendipes) staegeri (Lundbeck)—Chironomus staegeri Lundbeck; Diptera. (Entomological news, Nov. 1956. v. 67, no. 9, p. 225–36, illus.) 15 refs.

Contains description of collecting and rearing procedures for larvae of this midge, and notes on its ecology. A description of larva is provided to clear up existing confusion with those of several other species of the subgenus Tendipes; specific characters (epipharyngeal comb, bar and plate) are noted. The species is reported from Greenland, Northwest Territories, Ontario, Manitoba and Labrador; it is also rather common in northern United States and Canada.

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44513. CUSHMAN, CHARLES SIGAFUS. Interdiurnal temperature variations in Alaska. Seattle, 1953. ix, 115 l. 2 fold. graphs, 20 maps incl. 1 fold., tables. 40 refs. M. S. thesis, University of Washington.

The interdiurnal variabilities of the daily maximum, minimum, and mean air temperatures at the surface were studied for each month at 15 stations uniformly distributed over the mainland and southeast coast of Alaska using data for 1943-The results are given in tabular and graphic form. Isolines of the values are mapped for Jan., Feb., Apr., July, Aug., and Oct., variabilities were found to be largest in winter and smallest in summer over much of Alaska. In Southeast Alaska, however, the variability of the daily maximum and the daily mean are greatest in summer. Extreme variations in the interior of Alaska are generally greater than those in other parts of the world.

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44514. CUSHMAN, JOSEPH AUGUS-TINE, 1881—. A monograph of the Foraminifera of the North Pacific Ocean Pt. I, Astrorhizidae and Lituolidae; II, Textulariidae; III, Lagenidae; IV, Chilostomellidae, Globigerinidae, Nummulitidae; V, Rotaliidae; VI, Miliolidae. Washington, D. C., U. S. Govt. Print. Off., 1910–1917. 6 pt.: 134, 108, 125, 46, 87, 108 p. illus. plates. (U. S. National Museum. Bulletin no. 71.)

Contains a systematic treatment of about seven hundred species and varieties of marine protozoans of the order Foraminifera, based chiefly on collections made by the U. S. Bureau of Fisheries steamer Albatross, including those from Bering and Okhotsk Seas, Aleutian waters and the Gulf of Alaska. The study is arranged by families: a systematic list of known marine species which gives synonyms, descriptions, measurements, illustrations and distributional data.

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44515. CUSHMAN, ROBERT ASA, 1880- . New genera and species of

ichneumon-flies. (U. S. National Museum. Proceedings, Jan. 12, 1924. v. 64, art. 4, no. 2949, p. 1-16.)

Contains descriptions of two new genera and 11 new species together with notes on a few described earlier. Odontomerus stejnegeri, n. sp. taken by L. Stejneger, Aug 17, 1922, on "Robben Island" (Russ.: Ostrov Tyuleniy, Japanese: Kaihyo-tō), Okhotsk Sea (p. 9-10) is included.

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44516. CUSHMAN, ROBERT ASA, 1880- . North American ichneumon-flies, new and described, with taxonomic and nomenclatorial notes. (U. S. National Museum. Proceedings, Nov. 8, 1920. v. 58, no. 2334, p. 251-92.)

Includes a description of Phaeogenes arcticus n. sp., from Tongass National Forest, Alaska. Copy seen: DLC.

44517. CUSHMAN, ROBERT ASA, 1880 - . The North American ichneumon-flies of the tribe Ephialtini. (U. S. National Museum. Proceedings, Nov. 10, 1920. v. 58, no. 2340, p. 327-62, plate 21.)

Contains keys to the genera, subgenera and species of this tribe, and a systematic list of 28, with synonyms, descriptions of seven new species, critical notes and data on hosts and geographic distribution, Ephialtes (Ephialtes) sodalis from Greenland, E. (E.) yakutatensis, Alaska, and E. (Itoplectis) atrocoxalis, Hudson Bay region, are included. A list of host insects is appended.

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CUSHMAN, ROBERT ASA, 44518. 1880- . On the genera of the ichneumon-flies of the tribe Paniscini Ashmead, with descriptions and discussion of related genera and species. (U. S. National Museum. Proceedings, May 9, 1924. v. 64, art. 20, no. 2510, p. 1-48, 7 illus.) Contains a critical revision of this tribe, with keys to the genera and species, descriptions of three new genera, 29 new species and four new varieties, also critical notes on others. Paniscus albovariegatus and P. alaskensis, both from Alaska (p. 38) and probably synonymous, are included. Copy seen: DLC.

44519. CUSHMAN, ROBERT ASA, 1880— . A revision of the North American species of ichneumon-flies of the genus Odontomerus. (U. S. National Museum. Proceedings, Feb. 4, 1930. v. 77, art. 3, no. 2826, p. 1–15, 4 illus.)

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CUTBUSH, MARIE, see Chaplin, H., and others. Preservation of red cells at  $-79^{\circ}$  C. 1956. No. 44309.

44520. D., H. B. Permafrost. (Building research in Canada, Dec. 31, 1956.

v. 2, no. 4, p. 116-17.)

Permafrost and its effects on building foundations are summarized. Topics discussed include: occurrence and distribution of permafrost, foundations for buildings, and foundation types. The most common method for maintaining freezing conditions under a building placed on unstable ground is ventilation. Buried foundations such as piles are most suitable since they can be carried below the permafrost table.

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44521. DACHNOWSKI-STOKES, AL-FRED PAUL, 1875- . The stratigraphic study of peat deposits. (Soil science, Feb. 1924. v. 17, no. 2, p. 107– 133, 18 illus. on 5 plates, diagrs., crosssections, 2 tables.) 7 refs.

Profile records of peat deposits are studied and characteristics given of the different groups of peat materials. A classification (table) is given of structural units of peat and their physical characteristics, the units are illustrated. Method for examination of peat deposits is described.

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Da COSTA, FRANCES, see Mitchell, S. Q., and others. Dose-response . . . hypothermia. 1956. No. 46789.

44522. Da COSTA, ISEU AFFONSO, and others. Liver circulation in general hypothermia, 2; effect of occlusion of the inferior vena cava and aorta upon oxygen saturation and electrolytes in hepatic blood. (Stanford medical bulletin, May 1956. v. 14, no. 2, p. 92–96, tables.) 7 refs. Other authors: J. W. Ratcliffe and F. Gerbode.

A study of changes in tissues tributary to the inferior vena cava, portal and hepatic veins of dogs in hypothermia and with said occlusions. Oxygen desaturation and hyperkalemia in venous blood were observed following occlusion. The effects of a flood of hyperkalemic blood on cardiac rhythm is discussed. Pt. 1 of this paper has F. Gerbode (q. v.) as senior author.

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Da COSTA, ISEU AFFONSO, see also Gerbode, F. L. A., and others. Liver circulation . . . hypothermia 1 . . . oxygen saturation and electrolytes . . . 1956. No. 45077.

44523. DADYKIN, VSEVOLOD PET-ROVICH. Na Krainem Severe. (Nauka i zhizn', Oct. 1956. god 23, no. 10, p. 17-18, illus., col. plate.) Text in Russian. *Title tr.*: In the far North.

Discusses agrobiological methods of investigating the influence of cold soil and permafrost on plant growth. Low soil temperature affects growth chiefly by lowering absorption of nitrogen; foliar feeding by sprinkling leaves with 1-1.5 percent solution of ammonium nitrate increases the crop by 25-30 percent.

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44524. DADYKIN, VSEVOLOD PET-ROVICH. Voprosy fiziologii rastenil na Kralnem Severe. (Akademi\(\hat{a}\) nauk SSSR. \(\hat{A}\)kutskit filial, \(Yakutsk\). Institut biologii, Trudy, 1955. vyp. 1, p. 74–84.) 31 refs. Text in Russian. \(Title tr.:\) Problems of plant physiology in the far North.

Reviews investigations and experiments conducted in Russia on plant physiology under arctic conditions and on expanding agriculture northward. Problems of melioration, water regimen of the plants, effects of low temperature of the soil, manure, fertilizers, etc. are discussed.

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DAGNINO, I., see Bossolasco, M., and I. Dagnino. Carateristiche . . . del manto nevoso. 1956. No. 44102.

44525. DAHL, ARBE DAGFIN, 1894.
Med Alta bataljon mot tyskerne.
Stockholm, Natur och kultur, 1945. 149
p., plates, fold. map. Text in Norwegian.
Title tr.: With the Alta battalion

against the Germans.

Account, by its commander, of this battalion's operations, and the defense of North Norway generally, from mobilization in 1939 through the battle over Narvik in 1940. Winter weather and winter night, border patrol in Finnmark during Finland's winter war, terrain and maneuvers near Narvik are described.

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44526. DAHL, EILIF, 1916— . Forelesninger over norsk plantegeografi. Oslo, Akademisk trykningssentral, Blindern, 1950? 113 p., maps, diagr., approx. 100 refs. Text in Norwegian. Title tr.: Lectures on Norwegian plant geography.

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Lectures deal with the present status of plant geography in Norway; plant history; physical conditions of plant life; floral elements in the lowland; problems of distribution of native forest trees; mountain flora; problems of distribution of water plants; and effects of humans on plants. Included (p. 82-97) is brief discussion of alpine flora, endemic, west arctic, and (p. 60) eastern zonal relationships, situation with respect to solifluction and polygon soils, localities with richest varieties, etc. 

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DAHL, NANCY, see Samson, F. E., and N. Dahl. Effect of temperature . . . cerebral energy requirement in neonatal rats. 1956. No. 47776.

**DAHL, SVEND,** see Bluhme, E. Fra... Grønland, 1863–64...1952. No. 44059.

44527. DAHLSTEDT, GUSTAV ADOLF HUGO, 1856–1934. Die Hieracien des Sarekgebietes in Lule Lappmark. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 3, Botanik, Lfg. 7, ppb. 1925. p. 675–93.) Text in German. Title tr.: Hieracia of the Sarek region in Lule Lappmark.

Discussion of the geographic distribution of Hieracium species in Swedish Lapland is followed by an annotated systematic list of 36, of which 15 and two varieties are described (in Latin) as new.

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**44528. DAHN, T. V.** Alaska. (Orion, Feb. 1954. Jahrg. 9, no. 3–4, p. 140–47, illus., maps.) Text in German.

Information is presented on the Russian conquest and sale of Alaska; its main areas, their geography, climate, resources, populated places, economy, etc. Minerals are indicated, especially gold, its past and present exploitation, copper, oil, etc. Fish and the fisheries are described, in particular the salmon industry. Hunting and sealing, forest resources, and agriculture are sketched. Subsequent sections deal with population, the main cities and their economics, transport and communication, power resources, prospects for Copy seen: DLC. future.

44529. ĐAJA, IVAN, and others. Hipotermija i toksićnost strihnina i ugljenmonoksida. (Srpska akademija nauka, Belgrad. Glas, 1956. v. 217, odeljenje medicinskih nauka, no. 10, p. 79–84.) Text in Serbo-Croatian. Summary in French. Other authors: L. Marković-Daja and P. Sokić. Title tr.: Hypothermia and the toxicity of strychnine and carbon monoxide.

Down to a body temperature of 20° C., the toxicity of the two substances to rats remained unchanged. Below 20° C. the animals behave like poikilotherms and the toxicity of the two poisons is considerably diminished. The nature of this behavior is discussed.

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DALE, GEORGE A., see Sanders, I. T. Societies around the world. 1956. No. 47782.

44530. DALE, HOMER ELDON, 1922-, and others. Effect of environmental temperature rhythms on blood and serum volumes and body water in dairy cattle. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 43-44.) Other authors: S. Brody, and G. J. Burge.

Summary of studies on lactating and non-lactating Jersey and Holstein cows, kept at four diurnally variable ambient temperatures, viz: 10-40°, 40-70°, 60-110° and 70-100° F. Relative humidity was in all cases about 60 percent.

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44531. DALE, ROBERT F. The climate of the Matanuska valley. Washington, D. C., U. S. Govt. Print. Off., Mar. 1956. 26 p. 19 text maps, diagrs., 8 graphs, 12 tables. (U. S. Weather Bureau. Technical paper, no. 27.) 17 refs.

A study based primarily on records of nine weather stations in the valley (Alaska, 61°29' N. 149°16' W.) with an average of about 11 years of records, one with 34 yrs. General geographical and climatic factors are briefly described. Then follows more detailed discussion of precipitation, temperature, evaporation, cloudiness, solar radiation and day length, local winds (including Matanuska and Knik winds and joint occurrence of the two), aeolian soil deposits. Text is supplemented by charts, graphs, and tables of climatic data. Copy seen: DGS.

**44532. DALL, WILLIAM HEALEY, 1845–1927.** Another large Miocene *Scala*. (Nautilus, Dec. 1908. v. 22, no. 8, p. 80–81.)

Epitonium (Acrilla) atwoodi n. sp. from Low Pass Cañon, near Port Moller, Alaska, is described. Opalia rugifera,

Arctoscala condoni and Catenoscala oregonensis were also found in Miocene strata of Alaska Peninsula. Copy seen: DLC.

DALL, WILLIAM HEALEY, 1845-1927. Summary of the mollusks of the family Alectrionidae of the west coast of America. (U. S. National Museum. Proceedings, Jan. 15, 1917. v. 51, no. 2166, p. 575-79.)

Contains an annotated list of 49 species, with descriptions of 11 new ones and a new variety. Alectrion mendicus (= Nassa woodwardi and N. gibbsi), ranging from Kodiak Island, Alaska, to San Diego, California, is included.

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DALL, WILLIAM HEALEY, 44534. 1845-1927. Synopsis of the family Astartidae with a review of the American (U. S. National Museum. Proceedings, July 10, 1903. v. 26, no. 1342,

p. 933-51, plates 62-63.)

Contains a discussion of this molluscan family and its subdivisions, brief descriptions of 32 species, and full descriptions of six newly-named forms. At least five of the new species and 15 described earlier are listed as native to arctic seas, Greenland waters, Canadian Arctic Islands waters, Bering Sea, Bering Strait and Chukchi Sea. Copy seen: DLC.

DALL, WILLIAM HEALEY, 44535. 1845-1927. Synopsis of the family Veneridae and of the North American recent species. (U. S. National Museum. Proceedings, Dec. 29, 1902. v. 26, no. 1312, p. 335-412, plates 12-16.) 325 refs.

Contains a discussion of the family, table of distribution of 137 North American species, followed by a systematic list of 52 genera and subgenera and all known East and West American species, 20 described as new. At least ten species, native to Bering Strait, Bering Sea, Aleutian waters, Gulf of Alaska and Labrador Sea, are included.

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DALRYMPLE, PAUL C., see Chambers, J. V., and P. C. Dalrymple. Color regions of the world. 1956. No. 44305.

44536. D'AMATO, HENRY E. Cardiovascular functions in deep hypothermia. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 146-60, illus. tables.) 16 refs.

Account "of the observed major altera-

tions in the dynamic functions of the mammalian heart and peripheral vessels." Contrary to reduced rate of heartbeat, the stroke volume in hypothermia of 20° C. was normal and no evidence of O2debt was found. The problem of cardiodynamics in hemorrhagic, hypothermic dogs is also analyzed during discussion. Copy seen: DLC.

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44537. DAMIA, GIORGIO, and others. Studi sulle possibilità di ridurre il consumo tessutale di ossigeno nei mammiferi. 3; valori contemporanei della temperatura nei diversi organi misurata nel cane in ipotermia. (Minerva anestesiologica, Oct. 1955. anno 21, no. 10, p. 255-59, illus.) 13 refs. Text in Italian. Summary in English. Other authors: A. Bencini, P. Parola and G. Tiberio. Title tr.: Studies on the possibility of reducing tissue oxygen consumption in mammals, 3; simultaneous temperature values of various organs as measured in the hypothermic dog.

Simultaneous temperature records of eight organs taken during chilling and rewarming are presented and discussed. The differences between the organs are stressed and their value for study of hypothermia pointed out.

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DAMIA, GIORGIO, see also Bencini. A., and others. Studi . . . ridurre il consumo tessutale di ossigeno . . . ratto . . . trattamenti . . . ipotermia. No. 43950.

DAMIA, GIORGIO, see also Parola, P., and others. Studi . . . ridurre il consumo tessutale ossigeno . . . 2 . . . cane . . provocare l'ipotermia. 1955. No. 47259.

44538. DAMMANN, J. FRANCIS, and W. H. MULLER, Jr. Problems in methods of inducing hypothermia by use of drugs and internal cooling. National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . Symposium Oct. 1955, pub. 1956. p. 422-38, illus. tables.) 55 refs.

Information is presented on methods of cooling the blood stream, their merits and disadvantages; the use of drugs in cooling; the problem of ventricular fibrillation and its causes; apparatus used for blood cooling and oxygenation, etc. Additional information on new apparatus and methods is contained in the

record (p. 430-38) of discussion of this paper and No. 46892.

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DAMMANN, J. FRANCIS, see also Muller, W. H., and J. F. Dammann. Problems . . methods of inducing hypothermia . . . external cooling. 1956. No. 46892.

D'ANGELO, SAVINO ALBERT, 1910—, see Stevens, C. E., and others. The response of the pituitary-thyroid system . . . 1956. No. 48203.

**44539. DANIELO, ETIENNE.** Baptism by misery. (Eskimo, Dec. 1956. v. 42, p. 13–17, illus.)

Describes two cases of famine among Eskimos on Baffin Island: in winter 1946 two families southeast of Pond Inlet; two years later, a family on the west coast.

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44540. DANIELS, FARRINGTON, 1918- . Contact cooling of the hand at -20° F. Natick, Mass., Jan. 1956. 4, 21 p. illus., tables. (U. S. Army. Quartermaster Research and Development Center. Environmental Protection Division. Technical report EP-22, project reference 7-64-12-004.) 8 refs.

Account of observations on three men having their hands exposed to  $-29^{\circ}$  C.  $(-20^{\circ}$  F.) and holding aluminum and steel pipe (bare or covered with plastic) of the same temperature. It is concluded that the plastic (ensolite) decreases the rate of cooling of the hands and protects against cold injury. The third finger was found to be the most protected, the fifth the most vulnerable.

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44541. DANIELS, FARRINGTON, 1918—, and R. MADDEN. Energy expenditure during some subarctic bivouac activities. Natick, Mass., Apr. 1956. 3, 17 p. illus., tables. Process print. (U. S. Army. Quartermaster Research & Development Center. Environmental Protection Research Division. Technical report EP-20.) 7 refs.

Contains a study of energy cost in activities characteristic of bivouac life, with the aim of utilizing the data for arctic clothing design. The investigation was conducted at Fort Churchill, Canada. Energy expenditure varied from a low of about 40 Cal/m²/hr. (in sleeping bag, at night) to about 325 Cal/m²/hr., during simulated infantry assault.

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DANIELS, FARRINGTON, 1918—, see also Baker, P. T., and others. Relationship . . . skinfold thickness . . . body cooling . . . 1955. No. 43823.

DANIELS, FARRINGTON, 1918— , see also Baker, P. T., and F. Daniels. Relationship . . . skinfold thickness and body cooling . . . 1956. No. 43824.

DANIELS, FARRINGTON, 1918—, see also USQM Food & Container Institute. Nutrition symposium. 1954. No. 48643.

DANIELS, FARRINGTON, 1918— also Vaughan, J. A., and F. Daniels. The physiology of load carrying, IX. The energy cost of sled pulling . . . 1956. No. 48700.

44542. DANIELS, JOHN L. The petrology of the pre-Cambrian rocks of the southern portion of Southampton Island. (Geological magazine, Mar.-Apr. 1956. v. 93, no. 2, p. 140-52, text map, graph, 3 tables.)

The rocks are composed of acid gneisses of very variable character containing a few, commonly zoned, xenoliths. The petrography of both is described; eight new analyses are given, and the probable origin of several of these xenoliths is suggested. Area studied is near the mouth of the Kirchoffer River, in the Coral Harbour region (64°09′ N. 83°05′ W.).—From author's abstract.

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44543. DANIELSEN, ANDERS. Huldreblomen (Epipogium aphyllum) i Norge. (Blyttia, 1947. bd. 5, hefte 1, p. 1-6, 3 illus.) 4 refs. Text in Norwegian. Title tr.: Epipogum aphyllum in Norway.

Contains historical notes, and a vegetation analysis of a 4 m.<sup>2</sup> plot containing some specimens of this orchid. Its distribution in Norway is discussed, and 16 known localities listed, among them Talvik in Finnmark, Øverbygd in Troms, and Saltdal in Nordland.

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44544. DANILOV, D. N. Novye knigi po okhotnich'emu khozíaistvu. (Rafsionalizafsifa okhotnich'ego promysla, 1956. vyp 5, p. 147–49.) Text in Russian. Title tr.: New books on the hunting industry.

List of Russian books (36) published in 1954 and 1955, on hunting and trapping in the U. S. R. Several of the works deal with arctic and northern areas; a few are annotated. *Copy seen*: DLC. 44545. DANILOV, D. N. Tekhnicheskii progress i povyshenie proizvoditeľ-nosti truda v okhotnich'em promysle. (Ratsionalizatšifa okhotnich'ego promysla, 1956. vyp. 5, p. 3–13.) Text in Russian. *Title tr.:* Technical progress and increased labor productivity in the hunting industry.

Brief general survey of the progress achieved in Soviet commercial hunting, and discussion of means for further development: extending and improving trapping, use of bait, mechanizing hunters' transportation, assignment of certain areas to hunting collectives and organizations, etc. Traps with loops for eatching wolves and bears in Arkhangel'sk Province (p. 7) and successful hunting in the Anabar District of Yakutia (p. 11) are noted.

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44546. DANILOVA, N. S. Gruntovye zhily i ikh proiskhozhdenie. (In: Akademia nauk SSSR. Institut merzlotovedenia. Materialy k osnovam uchenia o merzlykh zonakh zemnol kory, 1956. vyp. 3, p. 109–122, illus.) 10 refs. Text in Russian. Title tr.: Ground veins and their origin.

The problem of ground veins associated with polygonal microrelief is discussed on the basis of investigations in the West Siberian forest tundra. Several scientists have described similar formations as ice wedges, considering them as phenomena associated with ground ice. This Siberian study shows that the formation occurs under other physiographical conditions and is associated with erosional processes or with lithological structure of the ground. The veins were found within sand and gravel soils (cf. cross section p. 112-113) and consisted of sandy loam or The percentage of fine particles increased in the veins with depth. Their location immediately under the sod, extending to a maximum depth of 2.5 m., indicates the independence of these formations from permafrost degradation and melting of fossil ice. Ice deposits found within these veins are seasonal phenomena.-From SIPRE.

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44547. DANNEVIG, GUNNAR. Beskatningen av skreibestanden; hva merkeforsøk i Lofoten viser; foreløpig rapport. Bergen, J. Griegs boktr., 1953. 37 p., maps, diagrs. (Norway. Fiskeridirektoratet. Skrifter, serie Havundersøketoratet. Skrifter, serie Havundersøketor, v. 10, no. 8.) Text in Norwegian. Summary in English. Title tr.: Evalu-

ation of cod stock; results of tagging research in Lofoten; preliminary report.

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Cod have been tagged annually since 1947 on the Lofoten banks during spawning season. Reports on recoveries indicate that the fish migrate toward Bjørnøya and Novaya Zemlya in the Barents Sea, returning toward the Norwegian coast during November and December. Tagging methods and types of tags are evaluated and illustrated. Returned tags, for the years 1947-51, vary 13-40 percent. German, British, Russian, and Norwegian fisherman engage in the catch. Copy seen: DLC.

44548. DANNEVIG, KRISTOFFER. Ingeniør i polarstrøkene. (Polarboken, 1956. p. 39-55, illus. text map.) Text in Norwegian. *Title tr.*: An engineer in polar regions.

À young Norwegian describes his visit to Alaska to gain construction experience on permafrost sites, also at Thule air base in northwest Greenland during its early construction phase, and on the DEW line sites in northern Canada. He compares active and passive construction methods, comments on his Eskimo acquaintances, their adjustment to changed circumstances, etc. Copy seen: DLC.

**DANNEVIG, PETTER,** see Johnsen, O. Meteorologi og oseanografi for sjøfolk . . . 1953. No. 45806.

44549. DANSEREAU, PIERRE MACKAY, 1911- . Studies in Potentillae of high latitudes and altitudes, I; introduction. (Royal Society of Canada. Transactions, 1955. Third ser., v. 49, sec. 5, p. 11-23, 3 tables.) 27 refs. Also pub. as: Michigan. University. Dept. of Botany. Contribution, no. 1004.

Contains general information on taxonomy, chromosome numbers, geographic distribution, and characteristics of Potentilla L. and a list of 40 species present beyond or near timberline. Problems in phylogeny and adjustment are listed. Present taxonomic classification of highnorthern Potentillae is not entirely satisfactory. Subjects to be discussed in a forthcoming series of papers are stated. Copy seen: DGS.

44550. DARLING, FRANK FRASER, 1903— . Pelican in the wilderness; a naturalist's odyssey in North America. New York, Random House, 1956. 380 p. plates, maps on end papers. Also pub. by Allen & Unwin, London. Reviewed by Charles F. Cooper in Journal of forestry, Nov. 1956. v. 54, no. 11, p. 784.

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Recounts author's travels in the United States in 1950, with (p. 267–371) account of a trip to Alaska, summer 1952, for ecological reconnaissance. His impressions of Juneau, Anchorage, Nunivak, the Bristol Bay area, Barrow, Fairbanks, Nome, etc., are given, with comment on vegetation, wildlife, people encountered, etc.

Copy seen: DLC.

D'ARRIGO, C., see Palma, G., and others. Studio dell' influenza dei tessuti periferici . . . 1956. No. 47237.

44551. DASSOW, JOHN ALBERT, 1917— . Technological developments in the Alaska salmon industry. (*In:* Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 192.)

A concise review of developments during the present century, including canning methods, smoking, freezing and cold storage, waste utilization, "specialty" and pharmaceutical products; also new products, including leather; current research.

\*Copy seen: DGS.

44552. DASSOW, JOHN ALBERT, 1917— . Utilization of sea lions in Alaska. (Commercial fisheries review, U. S. Fish and Wildlife Service, Jan. 1956. v. 18, no. 1, p. 5–9, illus., table.) Ref.

Contains description of the Steller sea lion (Eumatopias jubata) including weight, its range, size of population, breeding and feeding habits. Protective regulations are discussed, chemical composition is given of the meat, liver and blubber; possibilities for utilization are considered, especially as food for fish and fur animals.

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DATILLO, J. V., see Fedor, E. J., and others. Effect of hypothermia . . . induced bacteremia. 1956. No. 44862.

44553. DAVID, LORE ROSE, 1905—, compiler. Thorium, a bibliography of unclassified literature. Oak Ridge, Tenn., Technical Information Service, Nov. 1953. 124 p. (U. S. Atomic Energy Commission. TID-3044.) Supplement 1: Thorium, a bibliography of published literature, compiled by W. D. Prater, E. F. Joy, and E. G. Esterbrook; edited by R. E. Allen. June 1955. 296 p. (TID-3044), Suppl. 1.

Some references to thorium occurrence in Alaska, northern Canada, Scandinavia, U. S. S. R. are included under the heading Exploration and mineralogy (p. 50–60, and supplement p. 203–217). Annotations accompany the references which are drawn mostly from Chemical abstracts, Nuclear science abstracts, Current list of medical literature, Metallurgical abstracts, etc. for the years 1947–1953. Supplement contains references which appeared in Chemical abstracts, 1907–1952. References are listed by subject, with author, subject, and numerical indexes.

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DAVIDOFF, DAVID, see Frank, E. D., and others. Host resistance to bacteria in hemorrhagic shock, 4; effect of hypothermia . . . 1956. No. 44955.

**DAVIDOFF, DAVID,** see also Friedman, E. W., and others. Hypothermia in hemorrhagic shock. 1956. No. 44977.

44554. DAVIDSON, CHARLES FIND-LAY, 1911—. The economic geology of thorium: a review of world resources. (Mining magazine, Apr. 1956. v. 94, no. 4, p. 197–208.)

Includes (p. 207) brief description of occurrences in the Lovozerskaya Tundra (Kol'skiy Poluostrov; 67°50′ N. 35° E.) where plutonic rocks worked for niobium have interesting quantities of thorium. The rare mineral loparite forms an abundant accessory constituent of a banded nepheline-syenite. The average loparite contains 9%–12% Nb20<sub>8</sub>+Ta<sub>2</sub>O<sub>5</sub>, 40% TiO<sub>2</sub>, 33% rare earths, and 0.6%–0.9% thorium. No recent information is available on experimental plant for extraction of niobium, said to be in operation early in World War II.

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DAVIDSON, DONALD THOMAS, 1919—, see Handy, R. L., and others. Application of mechanical stabilization . . . beach . . . 1956. No. 45421.

DAVIDSON, DONALD THOMAS, 1919—, see also Stump, R. W., and others. Properties and geologic occurrence . . . silt deposits . . . Matanuska . . . 1956. No. 48236.

DAVIDSON, DONALD THOMAS, 1919-, see also Stump, R. W., and others. Property studies . . . Alaskan silts . . . Matanuska . . . Big Delta . . . Fairbanks . . . 1955. No. 48237.

DAVIDSON, DONALD THOMAS, 1919-, see also Ward, I. J., and others. Mechanical stabilization . . . gravelly sand . . . Barrow . . . 1955. No. 48858. 44555. DAVIES, WILLIAM EDWARD, 1917—. Bedrock geology of the greater Thule area. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, pub. 1954. p. 441–42.)

Contains preliminary report and recommendations. The Thule area is formed of two distinct types of rocks. The northern half consists primarily of sedimentary rocks and igneous sills, the southern half consists of a complex group of metamorphic rocks and dikes. Outcrops of bedrock are frequent except in the east-central part of the area where glacial deposits are deep. Brief descriptions of the red beds, black shales, quartzite series, and metamorphic rocks are given. Except for a vein of hematite on Wolstenholme Island, no minerals of economic importance were found in the rocks of the Thule area. Copy seen: CaMAI.

44556. DAVIS, HELEN MILES, 1895- . Solar heater for arctic desert. (Science news letter, Jan. 21, 1956. v. 69, no. 3, p. 42-43, illus.)

Contains outline of Snow, Ice and Permafrost Research Establishment's research activities in Greenland and elsewhere. The installation of a pilot-model solar heating device in the Arctic is proposed.

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**44557. DAVIS, PERRY HUME, II.** The husky gives way to the 'cat'. (Army, Sept. 1956. v. 7, no. 2, p. 44-45, 3 illus.)

The use of sled trains drawn by caterpillar tractors in the Arctic is described briefly. Ten-ton sleds were successfully employed during simulated combat maneuvers in Alaska at temperatures down to -58° F. Tractor trains using specially designed sleds are expected largely to replace dog teams for future supply operations and other military uses in the Arctic.

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DAVIS, W. H., see Towne, W. W., and others. Evaluation of sewage lagoons . . . 1956. No. 48447.

44558. DAVITAÎA, F. F. Gidrometeorologicheskie issledovanifâ v Mezhdunarodnom geofizicheskom godu. (Meteorologiâ i gidrologiâ, Dec. 1956, no. 12, p. 3–8.) Text in Russian. *Title tr.:* Hydrometeorological investigations during the International Geophysical Year.

Work of the two International Polar Years is reviewed. General program of the IGY. and fields of investigation are stated. The Russian meteorological net of established (292) and new (78) stations is indicated in general terms. Planned oceanographic work is outlined and vessels mentioned. **Copy seen:** DLC.

44559. DAVITAÑA, F. F. The programme of meteorological observations in the Arctic during IGY. (CSAGI Conference . . . pub. in: I. U. G. G. news letter, Sept. 1956. 5° année, no. 15, p. 372–74.)

Observations in the Arctic and sub-Arctic will probably be made from 108 stations including four drifting stations near the North Pole and four weather ships in the North Atlantic. Need is stressed for stations (four specified) in northern Canada, and for organized meteorological observations in Central Greenland. The addition of a uniform observation program of the aurora for all arctic stations is recommended.

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44560. DAVYDOV, TÜRIİ VLADIMI-ROVICH. V morâkh i stranstvifâkh. [Izd. 2., perer., dop.] Moskva, Gos. izd-vo geogr. lit-ry, 1956. 207 p. illus., ports., faes., map. 150 refs. Text in Russian. Title tr.: By sea and land. 2d ed. rev. and enl.

Biography of Fedor Fedorovich Matūshkin, 1799–1872, school-friend of the poet Pushkin, sailor and traveler. His two round-the-world voyages to Kamchatka and Alaska, on the Kanchatka under Golovnin in 1817–1819 (p. 19–72), and under Vrangel' on the Krotkit in 1825–1827 (p. 151–56), and his expedition with Vrangel' to northeast Siberia in 1820–1824 (p. 76–132) are included.

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DAVYDOV, LEV KONSTANTINOVICH, 1893- , see Obruchev, S. V. Spravochnik puteshestvennika . . . 1949–1950. No. 47123.

44561. DAVYDOV, MITROFAN MI-KHAĬLOVICH. Gidrotekhnicheskoe stroitel'stvo SSSR v pûtof pûtiletke. Moskva, Izd-vo "Znanie," 1954. 40 p. illus., diagrs., maps. (Vsesofûznoe obshchestvo po rasprostraneniû politicheskikh i nauchnykh znanif, serifû 4, no. 13.) Text in Russian. Title tr.: Hydraulic installations of the U. S. S. R. in the fifth five-year plan.

General outline of hydroelectric power development and river transportation in 1951-55. Power potential mainly of the rivers discharging into arctic seas, is discussed and diagrammed (p. 4-6); completion of the hydroelectric station Niva-3 on Kola Peninsula and first steps for harnessing the Angara River are noted. An integrated unified system of river transportation connecting all the bordering seas of European Russia (map p. 22) including White Sea, is discussed.

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44562. DAVYDOV, MITROFAN MI-KHAÏLOVICH. Reki potekut vspfat'. (Smena, May 1956. god 33, no. 9, p. 10–11, map.) Text in Russian. *Title* tr.: Rivers shall flow backward.

Far-reaching plans to intercept part of the water flowing northward (in the Ob', Yenisey, Pechora and Severnaya Dvina) and to redirect it toward the southern regions affected by water shortage. Copy seen: DLC.

DAVYDOV, MITROFAN MIKHAĬLO-VICH, see also Dzens-Litovskii, A. I. K voprosu . . . sibirskikh rek. 1954. No. 44701.

DAVYDOV, MITROFAN MIKHAĬLO-VICH, see also Zhilin, S. Reki . . . 1952. No. 49051.

44563. DAWBIN, W. H. The migrations of humpback whales which pass the New Zealand coast. (Royal Society of New Zealand. Transactions, 1956. v. 84, pt. 1, p. 147–96, illus. tables, maps.) 49 refs.

A study based on 9,000 sightings over North-bound humpback 36 seasons. were found to pass mainly along the east coast, with one group passing through Cook Strait to the west and another along the west coast of the Stewart Island and the southwest coast of the Stewart Island and the southwest coast of South Island. Southward migration is largely along the west coast with some moving along the "sole" and the "heel" of the New Zealand "boot." Seasonal variations in commencing migration, its peak, duration and rate, concentration, spread, etc. are described for selected areas. Of a number of environmental factors considered, such as currents, turbidity, bottom configuration, etc., the orientation of the coastline appeared to be the main modifier of migration routes, which seem to show a trend "towards the northwest and southeast during the northward and southward migration past New Zealand." Copy seen: DLC. DAWSON, DONALD, see Werner, A. Y., and others. Spontaneous rewarming . . . hypothermic . . . dog. 1956. No. 48902.

44564. DAY, E. K. Temperature observations on Fairbanks, Alaska, sewer system. (In: Alaskan Science Conference... 1953. Proceedings, pub. 1956, p. 1–5.)
7 refs.

Soil temperature measurements were made in 1949-50 in test pits around the sewer to obtain data for improving the design of systems in low-temperature areas. The existing sewer system was constructed in 1938-39 following conventional design principles employed in This resulted in conwarmer climates. siderable difficulty from freezing. Sewage temperature was found to follow a general seasonal trend, with the normal lag occurring with ground depth. Sufficient flow data was not obtained for an accurate determination of the effects of sewage flow on freezing but enough evidence was gathered to show the importance of maintaining flow. Calculated values of thermal conductivity of the soils adjacent to the sewers are given. Copy seen: DGS.

44565. DEACON, JOHN. Spartan, Canadian Aero shoran grid north. (Canadian aviation, June 1956. v. 29, no. 6, p. 69, 72, illus., map.)

The use of Shoran to obtain accurate aerial photographic mapping in northern Canada is described briefly. More than half a million sq. mi. have been controlled since 1952, beginning in the Yellowknife area and progressing north along the Mackenzie to the Arctic Islands and east along the coast, including most of the DEW Line. Map shows the area completed 1952-55 and that planned for 1956. Canadian Aero Service Ltd. and Spartan Air Services personnel and aircraft carry out the operations.

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44566. DEACON, WILFRED. Aluminum in polar exploration. (Light metals, Dec. 1952. v. 15, no. 177, p. 386-89, illus.) 8 refs.

An historical review is presented of some of the uses of Al equipment in polar expeditions. That of the Nansen cooker is traced. The earliest full-scale trial was conducted during the Jackson-Harmsworth expedition to Franz Joseph Land in 1894-97. This party was equipped with two boats, instruments,

cooking apparatus, etc., of aluminum. The experiment was somewhat unsatisfactory, probably due to the high degree of impurity of the Al. Its present successful application to sledges and buildings for arctic use is due mainly to the development of Al alloys. Sledges for the British North Greenland Expedition, 1952–54, are described.

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44567. DE ANQUIN, CARLOS E. Congelationes y pie de trinchera. (Revista de la sanidad militar Argentina, 1955. año 54, no. 4, p. 479–83.) Text in Spanish. *Title tr:* Frostbite and trenchfoot.

Contains information on individual and age predispositions to cold injury; pathogenesis; clinical aspects of both kinds of cold injury (symptoms, pathological phases, sequels); prophylaxis, treatment, early and definitive.

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44568. DEB, C., and J. S. HART. Hematological and body fluid adjustments during acclimation to a cold environment. (Canadian journal of biochemistry and physiology, Sept. 1956. v. 34, no. 5, p. 959–66, illus., table.) 23 refs.

Account of investigations on rats kept at 6° C. as compared to controls maintained at 30° C. Animals transferred from the warm to the cold environment showed an increase in blood and plasma volume. There was no difference in extracellular fluid volumes between the two groups, nor in erythrocyte count, hemoglobin concentration and plasma specific gravity. There was an increased hematocrit and corpuscular volume and a decreased corpuscular hemoglobin in the cold-adapted rats. Hb, red cells and plasma specific gravity increased with time in both groups. Copy seen: DNLM.

44569. DE BAER, OLIVER. Arctic trawl. (Geographical magazine, Sept. 1956. v. 29, no. 5, p. 250–53, 9 illus., text map.)

Popular account, with illus., of a regular two-week trip of the Grimsby trawler Northern Princess off northern Norway and Bjørnøya, in which writer took part. Ten such trawlers operate out of the British ports of Grimsby and Hull throughout the year. Discomforts and dangers of life aboard ship and the financial compensations are described;

also the actual trawling process, landing the net, gutting and storing the fish.

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DE BAKEY, MICHAEL E., see Moyer, J. H., and others. Renal . . . response to hypothermia and ischemia . . . 1956. No. 46876.

DEBENHAM, FRANK, 1883-, see Kühn, A. Eine Hypothese . . . Entstehung der Eisinseln. 1956. No. 46151.

44570. DEBETS, GEORGII FRANTSE. VICH, 1905— Antropologicheskie nablūdenifā. (In: Obruchev, S. V. Spravochnik puteshestvennika, t. 2, 1950. p. 613–24.) 19 refs. Text in Russian. Title tr.: Anthropological observations.

Contains instructions for physical anthropological field studies: observation, measurement, description, illus., collecting, etc. Need for such studies is stressed, with mention especially of the Indigirka-Yenisey area.

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44571. DEBETS, GEORGII FRANTSE-VICH, 1905—. DrevniI cherep iz Ākutii. (Akademiā nauk SSSR. Institut ėtnografii. Kratkie soobshcheniā, 1956. no. 25, p. 60–63.) 13 refs. Text in Russian. *Title tr.:* An ancient skull from Yakutia.

Parts of human skeleton and a well-preserved skull together with implements of flint and bone (including mammoth bone) were found in summer 1954 by the geologist G. S. Víazovov. The grave, neolithic, was near Tuoy-Khay village (approx. 62°30′ N. 111° E.) on the right bank of the Chona River, a tributary of the Vilyuy. The skull is mongoloid brachycephalic (measurements given), somewhat different from the present-day Evenki (Tungus), Yakuts and Buryats; it belongs to the so-called Katanga type of Eastern Siberia. Copy seen: DLC.

44572. DE GEER, EBBA HULT. Orographie et glaciation en Amérique du Nord et en Seandinavie. (Cahiers géologiques, July 1956. no. 31, p. 305–316, 3 text maps, diagr. graph.) 21 refs. Text in French. *Title tr.:* Orography and glaciation in North America and in Scandinavia.

A comparison of the effects of the continental ice sheet on the two regions. In Scandinavia, the glaciation was centered on a single chain of mountains; in North America, on a vast plain centering on the Hudson Bay region. Similarity in size and form of the Hudson Bay depression and that of interior Greenland is noted. System of concentric lines indicating glacial retreat in arctic Canada is briefly described; also deglaciation in Alaska, northwest Canada, and the region south of Hudson Bay. Varve method of tracing and dating the glacial margins is considered. Copy seen: DGS.

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44573. DE GEER, GERARD, 1858–1943. Om isdelarens läge under Skandinaviens begge nedisningar. (Geologiska föreningen, Stockholm. Förhandlingar, 1888. bd. 10, häfte 3, no. 115, p. 195–210.) Refs. Text in Swedish. Title tr.: On the location of ice masses during Scandinavia's two glaciations.

Includes observations of erratic boulders, moraines, and striae in several valleys near Tromsø, from which it is concluded that ice movement and transport westward extended from well east of the present watershed in northern Sweden, that the sea level was relatively higher during the later part of glacial time than at present, and that the Gulf Stream functioned along Norway's west coast.

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44574. DE GEER, GERARD, 1858–1943. Om Skandinaviens nivåförändringar under qvartarperioden. (Geologiska föreningen, Stockholm. Förhandlingar, 1888. bd. 10, häfte 5, no. 117, p. 366–79, 2 maps on 1 plate.) Refs in text. Text in Swedish. *Title tr.:* On changes of level in Scandinavia during the Quaternary period.

Includes discussion of literature, and conclusion that raised shorelines in fjord arms near Tromsø indicate changes of level related to rise of the land mass (p. 372–79). Isobase map is presented to coordinate the differences in uplift from place to place.

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44575. DEGELIUS, GUNNAR BROR FRITIOF, 1903—. The lichen flora on calcarcous substrata in southern and central Nordland, Norway. (Göteborg, Sweden. Botaniska trädgård, Meddelanden, 1956. v. 20, no. 1–2, p. 35–56, text map.) 24 refs.

Contains a list of 21 localities investigated, with brief data on topography, substrates and vegetation; a discussion of lichen flora; and an annotated list of 186 species, a few of which have been determined only as to genus or group. Based chiefly on the author's collections made in 1951 and 1953.

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44576. DEĬNEKO, VIKTOR FILIPPO-VICH. Aérofotogeodezifa. Moskva, Izd-vo geodezicheskol lit-ry, 1955. 423 p., illus., diagrs., graphs, maps. 49 refs. Text in Russian. *Title tr.:* Aerial photogrammetry.

Textbook approved by the Ministry of Higher Education U. S. S. R. for landsurveying courses of agricultural colleges.

Theoretical and practical considerations for aerial survey and preparation of contour photo-plans and maps are systematically presented not only for agricultural purposes, but also for conservation, hydraulic engineering and navigation. Air survey of river banks, lake shores, seacoast, marshes, tundras, etc., is presented as essential for characteristics of localities difficult of access. Uses of air photography are noted for geobotanical studies, in planning drainage of marshland, for study of water run-off and river flow, erosion, drift deposits, form and force of tidal waters, concentration of floating ice, polynyas, etc. Theories and problems in optics, photography (light and exposure) theory of perspective, projective geometry, stereoscopic projection, drafting, etc., are given. Methods and apparatus for analysis, and geometric measurements of recorded photographs are included, especially of the stereoscopic type. Photointerpretation is dealt with (p. 300-312) including factors affecting the photograph. Copy seen: DLC.

44577. de KOCK, L. L. The carotid body of the pilot whale, *Globicephala melaena*. (Nature, June 9, 1956. v. 177, no. 4519, p. 1084–85, illus.) 4 refs.

Contains a macro- and microscopical description based on fresh material secured from stranded animals. The probable physiology of this organ is inferred from its histological structure.

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44578. De LAGUNA, FREDERICA, 1906— . Chugach prehistory; the archeology of Prince William Sound, Alaska. Seattle, 1956. xix, 289 p. illus., diagrs., maps. (Washington (State) University. Publications in anthropology, v. 13.) 109 refs.

An archeological report on Prince William Sound based on author's 1930 field trip and a joint expedition (1933) with K. Birket-Smith sponsored by the National Museum of Denmark and the University of Pennsylvania Museum (cf. No. 1641 and 2814). The geography, glacial history, geology, flora, fauna, etc., are outlined and the history and distribution of the Chugach Eskimos The 67 archeological sites located on the territory of the eight Chugach tribes (Nuchek, Shallow Water, Sheep Bay, Port Gravina, Tatitlek, Kiniklik, Chenega and Montague Island peoples) are described in turn, mapped, and the cross-sections and plans of the Palugvik midden given. A comparative chronological dating into four periods is suggested: older and younger prehistoric, protohistoric and historic. The skeletal remains and their physical anthropology, burial methods, mummification, use of wooden coffins and fur wrappings, orientation and position of the bodies are dealt with. The rock paintings, pictographs and petroglyphs are reproduced and compared with those found on Cook Inlet, Kodiak Island, etc. The numerous excavated artifacts are described in detail and illustrated: adzes, axes, chisels, saws, picks, scrapers, stone lamps and dishes, knives and blades, awls, pins and needles, harpoon and arrowheads, darts and lances, fish hooks, ornaments, baskets, mattings, sewn skins, wooden canoes and paddles, house posts and stakes, paints, etc. Vital statistics (19th century) are given, the population density compared with that of the Aleuts and Koniags, and an attempt made to reconstruct the material culture and ways of life of the Chugach. The Prince William Sound culture is classed as one of the subareas of the Pacific Eskimo-Aleut complex and its marginal position within the basic cultural pattern common to southwestern Alaska is noted.

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**DELAMOUREUX, S. L.,** See Delâmure, S. L.

44579. DE LAUBENFELS, MAX WALTER. Porifera from Greenland and Baffinland collected by Capt. Robert A. Bartlett. (Washington Academy of Sciences. Journal, Sept. 15, 1942. v. 32, no. 9, p. 263–69, illus.) 30 refs.

Contains an annotated list of 21 species of arctic sponges dredged in 1927, 1931, 1933 and 1940, mostly in Foxe Basin and northwestern and eastern Greenland waters. Nine species and one genus are described as new. Copy seen: DLC.

DELAVAULT, ROBERT E., see Warren, H. V., and R. E. Delavault. Biogeochemical prospecting . . . northern latitudes. 1965. No. 48862. he

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44580. de LESSE, HUBERT. Biogéographie des lépidoptères du Groenland. Expéditions polaires françaises, missions P.-É. Victor. Zoologie, 6° note. (Société entomologique de France. Annales, 1952. t. 119, p. 97–116, table, maps.) 31 refs. Text in French. Title tr.: Biogeography of the Lepidoptera of Greenland. Expéditions Polaires Françaises, missions P.-É. Victor. Zoology, 6th note.

Account based on the geographic distribution, relations and in some cases on the ecology of the Greenland butterflies. Of the 36 species recorded, six are common with North America, two with Europe, 22 with both, and six are endemic. A classification according to zones is attempted: southern, central, northern and ubiquitous forms. Hypotheses explaining the geographical distribution and affinities of these butterflies are discussed.

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44581. de LESSE, HUBERT, and C. GRANGER. Hymenoptera. Expéditions polaires françaises, missions P.-É. Vietor Zoologie, 8° note. (Société entomologique de France. Bulletin, 1952. t. 57, no. 4, p. 53–58.) 7 refs. Text in French. Title tr.: Hymenoptera. Expéditions Polaires Françaises, missions P.-É. Vietor. Zoology, 8th note.

A list of 43 species, five of them new, collected in 1949 on the western coast of Greenland, at Eqe (69°45′ N.). Sex, date of collection, frequency, etc., are noted.

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de LESSE, HUBERT, see also Strenzke, K., and others. Microfaune . . . l'Eqe . . . 1, arachnides. 1955. No. 48229.

**DELGA, JEAN,** see Jaulmes, C., and others. Métabolisme de l'alcool . . . 1956. No. 45774.

44582. DELÂMURE, S. L. Gel'mintofauna morskikh mlekopitaûshchikh v svete ikh ėkologii i filogenii. Pod. red. K. I. Skrābina. Moskva, Izd-vo Akademii nauk SSSR, 1955. 517 p. illus., tables. About 600 refs. Text in Russian. *Title* tr.: The helminth fauna of marine mammals in the light of their ecology and phylogeny.

A comprehensive study, claimed to be

he first of its kind for these animals, with author's contribution based on 10-12 years' work and over 1,000 animals examined all over the world, but especially in Russian waters. Introductory sections deal with the aims of the study, material and methods, and earlier studies of these parasites in the Soviet Union. Taxonomy of the trematodes, cestodes, nematodes and Acanthocephala of seals and whales, is treated in the first part (p. 25-366). Discovery, outline of past investigation, anatomy and morphometry, development, host(s) and organs affected, etc. are discussed for each taxis. (p. 369-479) entitled "Helminth fauna and zoogeography" describes these parasites in the various species of seals and turn, their zoogeographic whales in characteristics including the character of those in the arctic (circumpolar) and antarctic regions. Appendices contain tables on distribution of helminths according to hosts and lists of those from seals and whales of Soviet waters.

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44583. DELÂMURE, S. L. Ob amfiboreal'nom i bipolârnom rasprostranenii gel'mintov morskikh mlekopitaûshchikh. (Akademiâ nauk SSSR. Doklady, Apr. 1, 1956. t. 107, no. 4, p. 621–23.) 12 refs. Text in Russian. *Title tr.*: On amphiboreal and bipolar distribution of marine mammal helminths.

Statistical data are presented which indicate that helminth fauna of the boreal zone of the Pacific is more abundant than that of the Atlantic (67 and 46). Specific content of these faunas, their relationship, endemic species and forms common to both faunas, are noted and discussed.

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44584. DeLURY, JUSTIN SARSFIELD, 1884- . Memorial of Robert Charles Wallace. (Geological Association of Canada. Proceedings, Nov. 1956. v. 8, pt. 1, p. 181-83, port.)

Tribute to Dr. Wallace as a national figure in Canada, and sketch of his life (1881–1955) and achievements as geologist and administrator, stressing the scientist. His teaching, work on mineral resources and mining problems in Manitoba are outlined. His activities (from 1928) in university administration and public affairs are noted. From 1951 until his death, he was executive director of the Arctic Institute of North America.

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44585. DEMCHENKO, AKOV GRIGOR'EVICH, 1842–1912. O navodnenii Aralo-Kaspilskof nizmennosti dlı uluchshenia klimata prilezhashchikh stran; s kartol beregov Kaspilskogo i Aral'skogo morel. Izd. vtoroe. Kiev, Pechatna S.P. Akovleva, 1900. 138 p. fold. map. Text in Russian. Title tr.: Inundation of the Aral-Caspian lowland for improvement of the climate of adjoining areas; with map of shores of Caspian and Aral Seas. Second edition.

Outlines plan to transform the Ob'Irtysh River system and direct part of
their waters southward to enlarge the
areas of Caspian and Aral Seas and enable
irrigation of adjacent desert and steppe
regions. Estimate of the cost of building
dams and canal through the watershed
is included. The author originally submitted a memo on this topic to the Geographical Society in 1868 and published
the first edition of this book in 1871.
The criticism evoked from readers and
experts is refuted p. 121–38.

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DEMCHENKO, AKOV GRIGOR'E-VICH, 1842-1912, see also Dzens-Litovskii, A. I. K voprosu . . . sibirskikh rek. 1954. No. 44701.

DEMENCHENOK, S. K., see Leningrad, Arkticheskii nauchno-issledovatel'skii institut. Instruktsifä . . . khimicheskikh issledovanii morskoi vody. 1944. No. 46308.

44586. DEM'ÎANKOV, N. V. Metody bor'by so smerzaemost'în navalochnykh gruzov. (Zheleznodorozhnyĭ transport, Nov. 1956. god 38, no. 11, p. 39–44, graphs.) Text in Russian. *Title tr.:* Methods of preventing freezing in bulky loose cargo.

Freezing of loose or friable cargo, such as coal, coke, ore, slag, sand gravel, salt, etc., during storage and transportation at low temperature is analyzed on the basis of conducted experiments. ture, remaining after processing, washing and separation, is the main cause of adfreezing. Water content less than 2 percent is considered ineffective. ous thermal, chemical and mechanical processes used for elimination of moisture are discussed in application to different materials. Greasing (oiling) of car walls is the simplest way to prevent freezing, and it is of assistance in dumping the cargo. Copy seen: DLC.

DEMIN, L. A., ed., see U. S. S. R. Voennomorskoe ministerstvo. Morskof atlas. 1950–53. No. 48515.

44587. DEMLING, L., and J. ZACH. Temperatur und Acidität des Magens bei lokaler Mangeldurchblutung. (Naunynschmiedebergs Archiv für experimentelle Pathologie und Pharmakologie, 1956. Bd. 227, Heft 6, p. 509–518, illus., tables.) 14 refs. Text in German. Title tr.: Temperature and acidity of the stomach during local circulatory insufficiency.

Reduction or stoppage of arterial blood supply to the rabbit stomach caused, in most cases, a local drop in temperature; in addition a pronounced rise in acidity of the stomach mucosa was observed. Severance of the vagus did not change this condition.

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44588. DEMPEWOLFF, RICHARD F. Ships that buck the polar seas. (Popular mechanics, Mar. 1956. v. 105, no. 3, p. 114–20+, illus., diagr.)

Contains a popular description of the construction and operation of the ice-breaker USS. Glacier. Principles for navigating through ice are outlined, and the problem of whiteout is discussed.

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DENIS, J., see Strenzke, K., and others. Microfaune . . . l'Eqe . . . 1, arachnides. 1955. No. 48229.

44589. DENISENKO, V. Vauli Nennang (Piettomin) v rasskazakh nentsev Tazovskof tundry. (Letopis' Severa, 1949. t. 1, p. 250–62, 4 plates.) 10 refs. Text in Russian. *Title tr.*: Vauli Nennang (Piettomin) in the narratives of Samoyeds of the Taz Tundra.

Contains three narratives noted down in 1942 in the Taz River region, about this popular Samoyed hero, leader of a revolt of Samoyeds and Ostyaks against the Russian administration and its native collaborators in 1830–1841. Historical facts are mingled with folkloristic elements in the texts. Conditions leading to the revolt, archival material and literature upon it are reviewed in the introduction. Illus. are drawings by V. Zatsev.

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44590. DENISON, M. E., and others. Effect of castration, testosterone propionate and exposure tocold on the oxygen uptake of rat tissues. (American journal of physiology, Sept. 1956. v. 186, no. 3, p. 471-74, illus. table.) 15 refs. Other

authors: R. L. Jasper, W. A. Hiestand and M. X. Zarrow.

Treatment of castrated or intact rats with testosterone propionate during exposure to cold (2±2° C.) resulted in increased O<sub>2</sub>-uptake by liver, kidney and brain slices. Sesame oil had a similar effect on liver and brain slices of castrated, cold-exposed animals; oxygen uptake of kidney tissue from castrated rats was unaffected by cold.

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**44591. DENISON, M. E.,** and **R. L. JASPER.** Glucuronidase activity in liver and kidney from animals exposed to a low environmental temperature. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 47.)

Summary of a study undertaken to elucidate the sexual dimorphism in survival of rats exposed to cold. Cold exposure of males and of castrated animals decreased the liver glucuronidase activity as well as that in the kidney. These and other reported observations suggest that cold as well as cortisone and testosterone propionate influence glucuronidase activity in the kidney.

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DENISON, M. E., see also Zarrow, M. X., and M. E. Denison. Sexual difference . . . survival . . . low ambient temperature. 1956. No. 49038.

44592. DENISOV, V. Razvivat' okhotnich'e-promyslovoe khozíalstvo v kolkhozakh severa. (Okhota i okhotnich'e khozíalstvo, Jan. 1956, no. 1, p. 5-8, illus.) Text in Russian. Title tr.: Develop commercial hunting in the collective farms of the North.

Outlines objectives, achievements, shortcomings and needs in hunting and trapping arctic fox, squirrel, otter and fur-bearers. Kolkhoz activities in the Noril'sk region, in Chukotka, Magadan Province, and the Evenki, Taymyr and Khanty-Mansiysk National Districts are mentioned.

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44593. DENMARK. GRØNLANDS KOMMANDO. Nogle oplysninger vedrørende Grønlands kommando samt vejledning for faste og værnepligtige orlogsgaster m. fl. til tjeneste under Grønlands kommando særlig ved Marinestationen Grønnedal. Marinestationen Grønnedal, 1952. Text in Danish. 20 p. Title tr.: Some information on the Greenland Command, with sugges-

tions for regular and defense-connected personnel as to conduct under the Greenland Command, especially at the

Marine Station, Grønnedal.

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Booklet by Rear Admiral F. Kjølsen, first head of this Command, for orientation of servicemen. Introductory sketch is given of Greenland: location, size, population, etc.; of Danish interest in the island from the time of Hans Egede. Unification in 1952, of the former marine and land services into the Greenland Command, also the joint agreement with the American defense group in NATO, are dealt with, the Danish Command supreme even in sections where American troops are located. Greenland's importance in the air age is noted. Suggestions are made for military personnel on attitudes, hobbies, safety measures, hygiene and health, use of leisure time, rules of personal conduct and responsibility, safety restrictions, customs, hunting and fishing regulations, etc.

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GRØNLANDS 44594. DENMARK, STYRELSE. Beretning fra den af Sundhedsstyrelsen til Grønland udsendte laegeekspedition 1947-48. København, 1949. 168, p., 6 tables. (*Its*: Beretninger, 1949, no. 1.) Refs. in text. Text in Title tr.: Report of the medical Danish. expedition sent to Greenland by the Ministry of Health, 1947-48. Previously listed as No. 10527.

Basic work, one of the few modern public health surveys published on a large arctic area. It was carried out in West Greenland by Drs. Erik Lynge and Vagn Sindbjerg-Hansen, most of the field work by the latter, and results worked up with aid of Drs. Johs. Holm (tuberculosis), Poul V. Marcussen (venereal diseases), Erik Uhl (technical hygiene), K. Erik Jensen (water supply), and E. Juel Henningsen (epidemic diseases). In nine parts: the first (p. 13-16) outlines itinerary May 1947-June 1948, which covered 90-95 percent of the West Greenland population (settlements listed). U. S. bases (two) and three minor harbors, also Ivigtut and Thule in the north, as well as East Greenland are excluded. Medical personnel are reviewed 17-38), their activities and working conditions; needs are stated for specific trained personnel, and for greater specialization. Health establishments are reported individually and in detail (p. 39-77): 12 hospitals and two children's homes with a total of 348 beds (17.5/1000 population), 70 percent occupied by tubercular patients. A new sanatorium (at Holsteinsborg) and children's hospital (at Julianehaab) are proposed, and needed facilities stated, including X-ray, vaccine, additional doctor boats, some equipped for TB and epidemic service. The TB program is discussed in relation to social and economic conditions: Greenland has the world's highest TB death rate. Other hospitalization is analyzed: surgical, obstetrical, medical, venereal, psychiatric, etc. cases; requirements are stated, including nursing homes, increased obstetrical care, etc. Distribution of medicines and medical supplies is also considered. Pt. 4 (p. 78-133) deals with general hygienic conditions in relation to communities, housing, water supply, including problems of permafrost and winter supply, use of ice; also sewage and rubbish disposal, roadways and drainage. Nutrition and clothing, personal, school, and occupational hygiene. also health education, quarantine, etc.,

A useful summary of conditions reported (p. 134-42) is followed by text of the Aug. 27, 1928 regulations for control of contagious diseases and changes recommended by: Dr. Henningsen on epidemic diseases and quarantine; Dr. Marcussen on venereal diseases; and Dr. Holm on TB (p. 159-68). common means of spreading, actual and reported distribution, also measures for control are stated. Copy seen: DLC.

DENMARK, GRØNLANDS 44595. STYRELSE. Brandværnsinspektion på Grønlands vestkyst 1951-1955. 5 no.: 94, 56, 87, 94, 22 p., illus. (Its: Beretninger vedrørende Grønland, 1951: nr. 2: 1952: nr. 4; 1954; nr. 3; 1954; nr. 5; 1956; nr. 5). Text in Danish. Title tr.: Inspection of fire precautions on the west coast of Greenland 1951-1955. Reports prepared by Berthel Thomasen.

Annual report of investigations of fire precautions and fire risks in various communities in West Greenland, with recommendations for improvements. For earlier information see No. 3863 in Beretninger vedrørende Grønlands styrelse, nr. 4, 1949. File seen: DLC.

DENMARK, GRØNLANDS 44596. STYRELSE. Fortegnelse over udvalgt fag- og skønlitteratur til brug for Grønlands- og grønlandskstuderende danske præster og lærere. København, 1949. 14 p. Text in Danish. *Title tr.:* Catalog of selected scientific and general literature for use by Greenland's Danish clergymen and teachers and those studying for duty in Greenland.

A well-rounded selection of Danish publications on Greenland is listed: periodical articles and books on history, art and music, travels and expeditions, administration, social conditions, folk-lore, church and school, Greenlandic language, fiction.

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44597. DENMARK. METEORO-LOGISKE INSTITUT. Havets overfladetemperatur i det nordlige Atlanterhav og Davis Stræde, 1955. (In its. Nautisk-meteorologisk årbog, Nautical-Meteorological annual, 1955, pub. 1956. 12 charts.) Text in Danish and English. Title tr.: Sea surface temperature in the North Atlantic Ocean and Davis Strait, 1955.

Contains chart for each month showing the surface temperatures with mean isotherms for Greenland Sea, Denmark Strait, Labrador Sea, and Davis Strait. Number of observations made in each region is shown. For years 1895–1939, 1945–1954, see No. 3892, 28730, 34361, 39507–39509.

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44598. DENMARK. METEORO-LOGISKE INSTITUT. Isforholdene i de arktiske have. The state of the ice in the arctic seas, 1953. København, 1956. 27 p., 5 charts, tables. (In its: Nautisk-meteorologisk årbog, 1953. Tillaeg (Appendix).) Text in Danish and English; prepared by Helge Thomsen and M. V. L. Lorek.

Text, charts, and tables give monthly data as in previous years (No. 3874, 28731, 39510) for: waters around Novaya Zemlya and Svalbard; Greenland Sea, Iceland, and Denmark Strait; Davis Strait, Baffin Bay, and Canadian Arctic Islands. Ship and shore observers are listed: name, nationality, locality of observation, month.

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44599. DENMARK. METEORO-LOGISKE INSTITUT. Meteorologisk årbog, 2den del: Grønland, 1951–1952. København, 1956. 2 nos.: 50 p., 50 p. tables. (*Its*: Publikationer.) Text in Danish and French. *Title tr.:* Meteorological yearbook, pt. 2: Greenland, 1951–1952. Greenland data 1951 and 1952: daily values of air pressure, air temperature (0° C.), humidity, wind direction and force, visibility, cloudiness, and precipitation for six stations along the east and west coasts; also monthly and annual values for ten stations. Prior to 1920, Greenland data (1873–1919) were included with Denmark in Meteorologiske årbog (No. 3875). From 1920, the Greenland data have been published separately as part 2 of this yearbook (No. 21421, 34362). Copy seen: DLC.

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44600. DENMARK. SØKORTARKI. VET. Dansk fyrliste; fyr- og tågesignalstationer samt radiofyr Danmark, Faerøerne og Grønland, 22. udg. Sluttet den 27. September 1956. København, A/S J. H. Schultz bogtrykkeri, 1956, 321 p., tables, col. map (fold.) Tillaeg nr. 1, Jan. 1957. Text in Danish. Title tr.: Danish lighthouse list; light- and fog-signal stations, with radio beacons, for Denmark, the Faroe Islands, and Greenland, 22nd edition. Corrected to Sept. 27, 1956. Supplement no. 1, Jan. 1957.

List includes lightships, buoys, cable, wreek, and bridge markers, and radio beams. General information is given on navigational aid. Character and use of various lights, their locations, coordinates, appearance, height above water, visibility, tone and radio beam frequencies, variable and group signals, etc., are presented. Contents list in English (p. 14-15) and index of names are included. Greenland light- and fog-signal stations also radio beam air transport signals are given (p. 276-85, 291) and supplement (p. 7-8).

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44601. DENMARK. UDENRIGSMINI-STERIET. Greenland. Ringkjøbing, A. Rasmussen, [1956?] 169 p. illus., ports., text maps, diagr.

New edition of No. 32559 and 37858. The chapter on Greenland daily life by V. Borum (p. 89–99) has been rewritten and shortened; and two new chapters have been added: The rational surveying of Greenland, by J. F. Chantelou (p. 153–60) dealing with geodetic surveying between 1927 and 1954; Greenland in the age of technical science, by P. Westphall (p. 161–69) describing shipping activities, Greenland air bases during World War II and their use today, transarctic flights by Scandinavian Airlines System. Other

chapters, reprinted with little or no change are:

Therkilsen, K. J. Greenland, mountain, sea, and ice, p. 9-28.

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Brun, Eske. The Greenland administration, p. 29-42.
The Greenlanders, past

and present, p. 43-66.

Nielsen, Frederik. Greenland culture, p. 67-88.

Therkilsen, K. J. From kayak to cutter; Greenland industries and occupations, p. 99-112.

Mikkelsen, Ejnar. East Greenland, p. 113-38.

Seidenfaden, Gunnar. The scientific exploration of Grandand, p. 139-52.

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DENNIS, WARREN H., see Brodsky, W. A., and others. The freezing point depression of mammalian tissues . . . 1956. No. 44144.

DEPARMA, N. K. Okhotnich'e khozíaľstvo Kanady. (Okhota i okhotnich'e khozíalstvo, Feb. 1956, no. 2, p. 58-60.) Text in Russian. Title tr.: Commercial hunting in Canada.

Outlines hunting regulations, measures for wildlife conservation, activities of institutions and companies connected with hunting, fur trade and game in 1950-51: acclimatization of beaver, control of predators, hunters' organizations, hunting as sport. Copy seen: DLC.

44603. DEPARMA, N. K. Peredovoi okhotoved. (Ratsionalizatsiia okhotnich'ego promysla, 1956, vyp. 5, p. 144-46.) Ref. Text in Russian. Title tr.: A leading expert on hunting.

Obituary of Vladimir Pavlovich Zisser, 1895-1955, noted for his study of wildlife and his knowledge of the hunting industry of the North. His participation in the exploration of Yakutia in 1927 and 1929 and his many years' work in the Kolyma and Indigirka River regions and in Chukotka are noted. His main publications relating to the hunting industry and the far North are mentioned.

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44604. de PERCIN, FERNAND, and S. J. FALKOWSKI. Frequencies of selected low temperatures in Alaska. Monthly Weather Bureau. weather review, June 1956. v. 84, no. 6, p. 207-218, 34 text maps, 4 tables.) 3 refs.

Contains data (with discussion) from 33 stations covering all Alaska, including inner Aleutians and St. Paul and Gambell Islands in Bering Sea. "Daily maximum temperatures at or below 0° F. may be expected over 50 percent of the days in Jan. at interior stations and extreme northern coastal stations . . . greatest frequency of maximum temperatures at or below -40° F. occurs at Umiat . . Minimum temperatures of -65° F. or less are recorded at only four of the interior stations. July, maximum temperatures at or below 68° F. occur least frequently at interior stations . . . and 75 to 100 percent of the time at stations exposed to maritime influence. Daily minimum temperatures at or below 32° F. in July are rare at all stations south of the Brooks Range. On the Arctic coast, in July, Barter Island and Barrow have freezing temperatures 39 and 41 percent of the time, respectively."-Author's abstract.

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de PERCIN, FERNAND. Some 44605. aspects of Quartermaster geographic and climatic research in cold environments. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1806.)

Abstract of paper presented at the Seventh Alaskan Science Conference (AAAS), Juneau, Sept. 27-30, 1956, U. S. Quartermaster Corps research began in World War II. Its Arctic Project established 1947, became Cold Environments in 1954. Current program includes preparation of environmental handbooks, studies of climatic analogs, and of microclimate at test sites and other areas; studies of frequency, duration, and distribution of climatic elements.

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44606. de PERCIN, FERNAND, and S. J. FALKOWSKI. A topoclimatic study, Fort Churchill, Canada. Natick. Mass., Apr. 1956. 28 p. 7 illus., 2 text maps, diagrs., graphs, 3 tables. (U. S. Quartermaster Corps. Environmental Protection Research Division. Technical report EP-38.) 8 refs.

Study was made Jan. 16-Feb. 7, 1955 on local variation of winter temperatures and wind speeds in the Fort Churchill area west of Hudson Bay, as support for Quartermaster Corps tests and as prototype for studies at other test sites. Temperature and wind speed data from five field stations and the main camp are compared. Results indicate that lowest temperatures may be expected in low, snow-covered areas with little or no vegetation; highest temperatures in forests or wooded areas. Strongest winds (and greatest windchill) occur at higher, exposed locations with no obstructions, weakest winds (and least windchill) in areas of dense vegetation and/or in lower sheltered areas. Low temperatures occurred more frequently with light to moderate winds than with calm conditions. There was no correlation between number of hours of sunshine and diurnal temperature range or diurnal wind variation.

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44607. DEPOCAS, FLORENT, 1923— Metabolic response of warm and cold acclimated rats to very cold environments. (Federation proceedings. Mar. 1956. v. 15, no. 1, pt. 1, p. 48.)

Account of heat production in 30° C.-acclimated and 6° C.-acclimated rats over a temperature range of -36° to 30° C. At all temperatures heat production in the cold-adapted animals was higher than in the other group. The metabolic response to cold was very rapid.

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DEPOCAS, FLORENT, 1923—, see also Hart, J. S., and others. Cold acclimation and the electromyogram . . . 1956. No. 45459.

DEPOCAS, FLORENT, 1923—, see also Héroux, O., and others. Metabolism and muscle activity . . . rats . . . cold. 1956. No. 45534.

DERIUGIN. KONSTANTIN 44608. MIKHAĬLOVICH, 1878-1938, and V. DRZHEVETSKII. Otchet o poiêzdkiê v dolinu nizhniago i sredniago techenia r. Obi, sovershennol lietom 1897-go goda studentami S.-Peterburgskago universiteta K. M. Derfüginym i Vsevolodom Drzhevetskim. (Leningrad. Leningradskil nauchnyl institut imeni P. F. Lesgafta. Izvestifa 1898. t. 2, vyp. 2, Text in Russian. Title tr.: p. 37-47.) Account of a journey to the lower and middle Ob' valley, made in the summer 1897 by K. M. Derûgin and Vsevolod Drzhevetskii, students of St. Petersburg University.

Description (by Derûgin) of 19 species of fishes and some small mammals collected for the St. Petersburg Biological Laboratory, with notes on distribution, ecology, migrations, economic value etc. Drzhevetskii describes (p. 42–47) some ethnographical material collected from Ostyaks encountered on the trip, May-

Sept. 1897 (clothing, weapons, household objects, etc.), as well as skins of several mammals. *Copy seen:* DLC.

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DERÍUGIN, KONSTANTIN MIKHAĬ. LOVICH, 1878–1938, see also Stiasny, G., and H. van der Maaden. Über Scyphomedusen . . . 1943. No. 48206.

44609. de ROMER, HENRY S. The geology of the eastern border of the Labrador Trough, east of Thévenet Lake, New Quebec. (Canadian mining journal, Dec. 1956. v. 77, no. 12, p. 92.) Abstract of unpublished M.Sc. thesis presented to McGill University, 1956.

Area studied is about 30 mi. southwest of Fort Chimo. Intensity of metamorphism increases from west to east; a major structural break separates the highly folded, faulted and overturned eastern part of the Trough from the granitegneiss-migmatite complex to the east; the amphibolites have been derived from former gabbro sills and basalt flows and by metasomatism of dolomitic rocks.

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44610. DERRUAU, MAX. Les formes périglaciaires du Labrador-Ungava central comparées à celles de l'Islande centrale. (Revue de géomorphologie dynamique, Jan.-Feb. 1956. Année 7, no. 1–2, p. 11–16, 5 illus., sketch map, cross-section.) 2 refs. Text in French. Summary in English. Title tr.: Periglacia forms of central Labrador-Ungava compared with those of central Iceland.

Contains results of author's observations in Iceland in 1954 and in the Knob Lake region (54°48' N. 66°48' W.) in Oct. 1955. Climatic and structural conditions are briefly compared. Similarities in relief are: abundance of till and scarcity of rocky outcrops, numerous small convex hilltops, frequency of rock flows, frost pavements, ponds with variable water Major differences are due to levels. underlying bedrock of the two regions (quartzites, schists in Labrador-Ungava; volcanic rocks in Iceland) and to climate. In Labrador-Ungava as opposed to central Iceland, solifluction processes are more active, polygonal soils and ropy peat bogs are common, and ventifacts are scarce. Copy seen: DGS.

44611. DESIGN NEWS. 'Drive-in' skis extend operations of gying automobile. (Design news, Mar. 15, 1956. v. 11, no. 6, p. 4, col. 3, illus.)

Automobile with propeller in rear is

fitted with skis to travel over snow or ice at speeds up to 60 mph.; in the air it cruises at speeds over 100 mph. with cruising range of 300 mi. The car may be backed off the skis, and the latter stored atop the car.

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DES MARAIS, ANDRÉ, 1919—, see Dufour, D., and others. Effet de l'hormone somatotrope . . . le rat . . . exposé au froid. 1955. No. 44674.

DES MARAIS, ANDRÉ, 1919—, see also Gagnon, P. M., and A. Des Marais. Conditionnement, par l'exposition au froid . . . chez le rat hypophysectomisé. 1955. No. 45014.

**DETERLING, RALPH ALDEN, 1917**, see Parshley, M. S., and R. A. Deterling. Tissue culture studies of blood vessel grafts, 2 . . . effect . . . low temperatures . . . 1956. No. 47262.

DETTERMAN, ROBERT L., see Gryc, G., and others. Mesozoic sequence in Colville River region . . . 1956. No. 45325.

44612. DEXTER, RALPH WARREN, 1912- . A new fairy shrimp from western United States, with notes on other North American species. (Washington Academy of Sciences. Journal, May 1956. v. 46, no. 5, p. 159-65, 6 illus.) 7 refs.

Contains extensions of geographic ranges of some species of these shrimps, new localities and records. Polyartemiella hazeni was collected near Meade River at Point Barrow in 1952, and on coastal plains of Alaska (70°25′ N. 150°40′ W.) in 1953, Artemiopsis stefanssoni was found in a lake on Prince Patrick Island in the Canadian Arctic Islands.

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44613. D'IAKONOV, F. V., and G. V. NAUMOV. Ékonomiko-geograficheskafa kharakteristika nugo-zapadnol chasti Akutskoi ASSR. (Akademiia SSSR. IAkutskii filial, Yakutsk. Trudy, 1956. vyp. 1, Materialy o prirodnykh usloviíakh i seľskom khozíalstve jugozapada ÎAkutskoĭ ASSR, p. 5-21, tables.) Text in Russian. Title tr.: The economic geographical characteristic of southwestern Yakut A. S. S. R.

The middle Lena basin is considered: the boundaries and size of the area (230,000 km.²); its geology, morphology, climate and hydrology; flora and fauna and their economic aspects. The main industries: forestry, agriculture, animal husbandry, hunting and ship repairing, are outlined. Transportation and peculiarities of various parts of the area are discussed.

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44614. D'ÎAKOV, P. P. Gidromekhanizatsifa zemlîânykh rabot na zheleznodorozhnom transporte. Izd. 2e, per. Moskva, Gos. transportnoe zheleznodorozhnoe izd-vo, 1950. 403 p., illus., diagrs. Text in Russian. Title tr.: Hydraulic excavations for railway transportation. 2d ed. rev.

Chap. 5, Primenenie gidromekhanizatsii v zimnikh uslovijakh: Hydraulic operations under winter conditions (p. 309-318) deals with hydraulic excavation and embanking of ground for railroad construction at air temperatures below 0° C. Cohesion increases 2-5 times in frozen ground, requiring higher power consump-Protection from deep freezing is therefore important. A snow cover 20-25 cm. deep provides sufficient protection against ground freezing. Water pipelines in areas of continuous frost should be insulated also, using snow, straw, or other material. Ground freezing at the rate of 15-20 cm./day at air temperatures of -15° to -18° C. does not present any special difficulties in hydraulic operations if the work day is not less than 10-12 hrs. Ground frozen deeper than 1 m. must be prepared for excavation by blasting .-From SIPRE. Copy seen: DLC.

44615. DIAMOND, MARVIN. Precipitation trends in Greenland during the past 30 years. Wilmette, Ill., Dec. 1956. iv, 4 p. diagrs. (U. S. Army. Corps of Engineers. Snow Ice and Permafrost Research Establishment. Research report 22.) 6 refs.

Annual precipitation was computed from snow-profile studies made at a test area 200 miles east of Thule, at an elevation of about 6800 ft. An apparent gradual decrease in precipitation between 1920 and 1954 is indicated. A residual mass curve analysis of the data indicates that the largest decrease occurred after 1932 concurrent with the apparent increase in temperature in northern Greenland.

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44616. DIAMOND, MARVIN, and R. W. GERDEL. Radiation measurements on the Greenland ice cap. Wilmette, Ill., Oct. 1956. iv, 20 [1] p. illus., diagrs.,

tables (U. S. Army. Corps of Engineers, Snow Ice and Permafrost Research Establishment, Research report 19.) 9 refs.

Global and net radiation measurements were made approximately 200 miles east of Thule near 78° N. lat. during the period July 6-Aug. 7, 1955. Only 15 percent (3059 ly) of the total radiation measured was absorbed by the snow cover, most of which was re-emitted as long-wave radiation. The long-wave radiation balance remained negative. The effects of atmosphere and snow conditions on the radiation as well as possible errors in the radiation measurements are discussed. The hourly values of incident and reflected solar radiation are tabulated.

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44617. DIAMOND, MARVIN. Studies on vehicular trafficability of snow, pt. 1. Wilmette, Ill., U. S. Army. Corps of Engineers. Snow Ice and Permafrost Research Establishment, April 1956. 24 p. illus., diagrs. tables. (Its: SIPRE report 35) 8 refs. Also reported at Eastern Snow Conference, 13th meeting, Hanover, N. H. vide its Proceedings

(copy at DGS).

"Four light snow vehicles of the personnel-carrier type were used to test the trafficability of the snow cover at the Keweenaw Field Station near Houghton, Mich. in Feb. and Mar. 1955. It was found that the maximum drawbar coefficient was obtained at a track slip of 20-40 percent, indicating that drawbar pull is a function of the frictional resistance of the snow. The Kamm-type, 30°-angle grouser attached to the M-7 tractor produced a significant increase in the drawbar coefficient obtainable. On the basis of an efficiency coefficient, the M-7, with or without angle grousers, outperformed the ladder-type tractor. The maximum efficiency coefficient occurred at lowest track slippage. A modification of Coulomb's equation was shown to express a relationship between tractive effort and vehicle weight. The angle of internal friction varied between 26-32° with a mean of 28°. In these trials the relationship between tractive effort and load appears to be defined by Coulomb's equation for cohesionless materials, indicating that this snow acted as a cohesionless substance when trafficked. An appendix (p. 21-24) by Dr. H. Bader discusses some theoretical considerations on trafficability of snow."-Author's abstract. Copy seen: CaMAI. 44618. DIAMOND, MARVIN, and B. L. HANSEN. Use of a shear vane in snow. Wilmette, Ill., July 1956. iv, 10 p. illus., diagrs., tables. (U. S. Army. Corps of Engineers, Snow Ice and Permafrost Research Establishment. Technical report 40.)

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Two shear vanes of different size were used to measure the shear and frictional resistance of snow at various normal pressures. Tests were conducted in Greenland and northern Michigan. The relationship between shear and frictional resistance and normal pressure was found to be linear in 60 percent of the tests and exponential in about 20 percent; there was no apparent relationship in the other 20 percent. Results indicate that instrument size may influence the values obtained. Copy seen: CaMAI.

DIAMOND, MARVIN, see also Gerdel, R. W., and M. Diamond. White-out in Greenland. 1956. No. 45080.

**44619. DICKIE, FRANCIS.** Branding bison by helicopter. (Frontiers, June 1955. v. 19, no. 5, p. 134–36.)

Wood bison in Wood Buffalo Park (Mackenzie District-Alberta) have increased from about 300 in 1900 to 15,000 in 1954, and further increase is checked by annual thinning to insure food supply. To aid study of migrations within the Park, S5 animals were marked from a helicopter in fall 1954 by spraying with sheep dye; different dye colors indicating animals from different areas. Difficulties experienced by the pilot and Canadian Wildlife Service officer, R. C. Stewart are described.

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44620. DICKSON, JAMES G. Forage crops and disease survey of Alaska, 1956. 25 p. 10 refs. Process print. Alaska Agricultural Experimental Station, Palmer.

Account of a survey made during August 1956, in the Matanuska valley and localities of the experimental stations, Palmer and Fairbanks. Comments are offered on forage crops and their use in the area, forage plant associations, native wild species adapted to cultivation, introduced forms, forage crop diseases. Attended are lists of local grasses (66 per heir distribution; grass pathogens, their hosts and occurrence; legume; polynomus plants; and a list of legume pathogens, their host(s) and distribution. Copy seen: CaMAI.

44621. DICKSON, JAMES G. Forage plants, soils, and general grazing conditions on Umnak, Kodiak and other areas in southern Alaska, Palmer, Alaska, Nov. 1956.

8 p. (Alaska Agricultural Experiment Station. Mimeographed circular no. 11.)

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A preliminary study. made during the 1956 growth season, of range and pasture conditions in primarily stock-raising areas, in contrast with areas of diversified farming, Matanuska and Tanana valleys. Information is offered on the number of cattle, sheep and horses, their feed and graze; vegetation and important forage plants of Umnak Island, their growth and seeding; legumes, poisonous plants, etc. Conditions on Kodiak and southcentral coastal areas, range and meadow managements, cultivated crops, etc., are sketched from a limited sampling. Copy seen: CaMAI.

44622. DIESEL POWER. Cats work in the cold, too. (Diesel power, Aug. 1956. v. 34, no. 8, p. 49, illus.)

The use of Caterpillar equipment on snow and ice during Operation Deepfreeze is noted. The equipment is reported to have performed well in unloading and hauling operations under extreme climatic conditions. The tractors were generally able to haul three Il-ton sleds with a 15-ton payload in third gear.

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44623. DIESEL POWER. Cold starting made easier. (Diesel power, Sept. 1956. v. 34, no. 9, p. 54-55, illus., diagrs.)

A device designed to provide quick starts of diesel engines at temperatures to  $-70^{\circ}$  F. is described. The device injects starting fluid carburated with air into the intake manifold until regular fuel ignites. The special low etherblend of starting fluid is placed in special capsules. Three types of spray nozzles are described and illustrated.

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44624. DIGBY, PETER S. B. The biology of the marine planktonic copepods of Scoresby Sound, East Greenland. (Journal of animal ecology, 1954. v. 23, no. 2, p. 298–338, illus., table.) 53 refs. Contains life histories of copepods collected at regular intervals in Aug. 1950 and 1951, one to two miles east of the settlement (70° N. 22°03°' E.) from the upper 50 m. of water. Over half a dozen of common forms were studied,

including their growth and development, life cycle, food, life span, etc.

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44625. DILLON, LAWRENCE SAM-UEL, 1910- The nearctic components of the tribe Acanthocinini (Coleoptera: Cerambycidae), part II. (Entomological Society of America, Annals, May 1956. v. 49, no. 3, p. 207–235, 9 illus.)

Contains systematic annotated list of about 40 species, with keys to species, descriptions, synonyms, critical remarks and data in distribution. Four genera, four species and three subspecies are described as new. Neacanthocinus pusillus, recorded in Fairbanks, Alaska, is included, Part I of this paper does not contain arctic material.

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44626. DILLON, LAWRENCE SAM-UEL, 1910- . Wisconsin climate and life zones in North America. (Science, Feb. 1956. v. 123, no. 3188, p. 167-76, maps.) 35 refs.

Contains an outline of climatic and biogeographic conditions during the peak of the last glacial period. It covers all of arctic North America and Greenland, and aims at reconstructing the climate of the ice sheets and of the unglaciated regions; development of the ice sheets and the effect on biota, life zones and speciation; evidence from various areas; biogeographic evidence, etc.

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44627. DILLON, RICHARD H., Editor. Peter Pond and the Overland route to Cook's Inlet. (Pacific Northwest quarterly, Oct. 1951. v. 42, no. 4, p. 324–29.) Ref.

Contains extract of letter from Isaac Ogden (Quebec) to his father David Ogden (London) Nov. 7, 1789. Letter is based on talk with Peter Pond one of the first white men to explore the Great Slave Lake region and on examination of his map. It describes route from Lake Superior to Great Slave Lake and region around the lake and sets forth Pond's opinion that only a narrow stretch of land separated this region from the southern Alaska coast described by Capt. Cook; also that the Slave River emptied into the ocean at Cook Inlet. Editor introduces Ogden's letter, presents a memo from Sir Joseph Banks concerning Pond's travels, and a letter to Banks from J. M. Nooth describing the Great Slave Lake region. *Copy seen:* DGS.

DIMICK, B. W., see Mayer, S. W., and others. Further observations . . . I<sup>131</sup> metabolism of prefrozen thyroid . . . 1956. No. 46669.

44628. DIRMHIRN, INGE. Über Strahlungsmessungen auf einer Reise durch Norwegen. (Akademie der Wissenschaften, Wien. Mathematischnaturwissenschaftliche Klasse. Sitzungsberichte, 1955. Bd. 164, No. 5, Heft 7, p. 143–60, diagrs., tables.) 16 refs. Text in German. Title tr.: Radiation measurements made on a trip through Norway.

Results of solar and sky radiation measurements made in southern and northern Norway during the period mid-June to beginning August 1952 are presented. Mean values of solar radiation are tabulated for Tromsø (69.6° N. 19.0° E.), Volbu (61.1° N. 9.1° E.) and Spissebu (61.1° N. 9.2° E.) arranged according to solar altitude, and time of day. A comparison of solar radiation intensities reduced to sea level is made with values cited by G. Perl for the same latitudes. The uncertainties and inaccuracies of sky radiation measurements are elaborated. A total of 2000 measurements of sky radiation were obtained and the conclusions drawn are justified on the basis of utilization of identical instruments by the same observer. Intensity values of sky radiation for a cloudless sky according to solar altitudes are tabulated. A comparison is made with results obtained by other authors. It is concluded that high solar radiation and low sky radiation intensities exist in northern and southern Norway.

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**44629.** *DISCOVERY*. Check-list on polar ships in the Antarctic news. (Discovery, Oct. 1956. v. 17, no. 10, p. 428-29.)

Lists 22 ships used by various nations in preparation for the International Geophysical Year, 1957–1958; with tonnage, horsepower, original and present use, strengthening for ice, equipment, capacity, etc. Classification of polar ships is discussed, ef. Polar record, Jan. 1956.

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44630. DISCOVERY. The International Geophysical Year, month by month.

(Discovery, May-Dec. 1956. v. 17, no. 5-12, illus., in progress.)

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Plans, preparation, conferences, and progress of various countries participation the IGY are reported from month to month; work in both arctic and antarctic regions is noted; photographs of the areas of research, equipment, ships used, etc. are included. This current report is to continue throughout the planning stage and actual operations (July 1957–Dec. 1958).

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**44631. DIX, W. L.** Lichens and hepatics of the Ungava Peninsula. (Bryologist, Mar. 1956. v. 59, no. 1, p. 43–50.)

Based on the material collected in 1953 by Dr. Francis Harper. Over 80 species are listed with notes on location, substrate, frequency, geographic distribution, etc. Copy seen: DA.

44632. DJINGHEUZIAN, L. E. Development of ore dressing procedures. (Western miner, Nov. 1956. v. 29, no. 11, p. 42–49, illus., text map, diagr., 7 tables.) 6 refs.

Includes (p. 46–49) description of flotation tests on a gold-silver-copper-lead-zinc ore from Vangorda Creek, northeast of Whitehorse, Yukon; and concentration of a tantalum ore from near Ross Lake in the Yellowknife-Beaulieu district, Mackenzie District-Results are shown in tables and briefly discussed.

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44633. DJINGHEUZIAN, L. E. Development of ore dressing procedures for Canadian ores. (Canadian mining journal, Oct. 1956. v. 77, no. 10, p. 75–81, text map, 7 tables.) 6 refs.

From the hundreds of ore samples examined and tested by the Canadian Mines Branch, the writer selected eleven examples to illustrate features of mineral dressing problems. Descriptions are included of flotation tests (and results) on a gold-silver-copper-lead-zinc ore from a property near Vangorda Creek, Yukon Territory (approx. 64° N. 132°30′ W.), and the concentration of a tantalum ore from the Ross Lake area, Yellowknife-Beaulieu district, north of Great Slave Lake (62°4′ N. 113°12′ W.).

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44634. DMITRIEV, P. Byvshie voiny, stroiteli Irkutskoï Gés. (Voennye znaniâ, Sept. 1956. god 31, no. 9, p. 16–17, illus., ports.) Text in Russian. *Title* 

tr.: Former soldiers as builders of the Irkutsk hydro-electric plant.

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Sketches several veterans of various ranks now at work on the first Angara River power plant construction; their military service, present work in Siberia, achievements, sports, participation in defense organizations, etc., are noted.

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DMITRIEVA, N. G., see Akademiîa nauk SSSR. Institut geografii. Sneg i talye vody. 1956. No. 43523.

DOBROKHOTOV, W. S., see Aleksandrov, S. E., and W. S. Dobrokhotov. Ledânye tsvety. 1956. No. 43565.

DOBROSCKY, IRENE D., see Shannon, R. C., and I. D. Dobroscky. The North American . . . Protocalliphora . . . 1924. No. 47919.

44635. DOBROSERDOV, A. A., and A. A. STROCHKOV. Mekhanizatsifa ochistki strelochnykh perevodov ot snega. (Zheleznodorozhnyf transport, Oct. 1956. god 38, no. 10, p. 55–58, illus., diagrs.) Text in Russian. *Title tr.:* Mechanized snow removal from railroad switches.

Various methods of switch cleaning used on railroads in the U.S.S.R. are described, and their performance under different climatic conditions is discussed. Special brushes on the front of locomotives were found ineffective. Better results were obtained with a brush-type snow remover attached to a hand-car, but this remover needs additional testing. Pneumatic equipment (VVK-200, PKS-6, and KS-9 types) delivering air at rates up to 9 cu. m./min. showed satisfactory performance, but electrical heating switches is the most promising method for moderately cold winters. The heating equipment used on the Moscow-Kursk-Dombas and Southwestern Railroads is described in detail

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44636. DOBROVOL'SKIĬ, ALEKSEĬ DMITRIEVICH. Frit'of Nansen, vydaûshchitsû polîârnyī issledovatel'. Moskva, Izd-vo "Znanie," 1956. 31 p., port., map. (Vsesoûznoe obshchestvo po rasprostraneniû politicheskikh i nauchnykh znaniī. Seriû 3, no. 5.) Text in Russian. Title tr.: Fridtjof Nansen, an outstanding polar explorer.

Brief account of Nansen's life, activities and scientific explorations; tribute to his achievements. **Copy seen:** DGS.

DOBROVOL'SKIĬ, ALEKSEĬ DMITRI-EVICH, see also Antonov, A. E. F. P. Litke . . . 1955. No. 43693.

DOBROWOLSKI, ANTONI BOLES-ŁAW, 1872–1954, see Veïnberg, B. P., and others. Obshchafa kristallografifa l'da. 1940. No. 48715.

DOBROWOLSKI, ANTONI BOLES-ŁAW, 1872–1954, see also Veinberg, B. P., and others. Nekotorye svoistva snezhnogo pokrova. 1940. No. 48714.

DOBROWOLSKI, ANTONI BOLES-ŁAW, 1872–1954, see also Veinberg, B. P., and others. Obshchaîa petrografia l'da. 1940. No. 48716.

44637. DOBZHANSKY, THEODOSIUS GRIGOR'EVICH, 1900—. The North American beetles of the genus Coccinella. (U. S. National Museum. Proceedings, Nov. 10, 1931. v. 80, art. 4, no. 2904, p. 1–32, 30 illus.) 15 refs.

Contains a discussion of this genus, and a key to the species, followed by descriptions of 20 forms, (one subspecies described as new), with critical remarks and lists of localities. C. transversoguttata (Alaska, Yukon), C. nivicola monticola (Quebec, Hudson Bay), C. trifasciata (Ontario, Hudson Bay) and C. undecimpunctata (Alaska) are included.

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44638. DODGE, HAROLD RODNEY, 1913 - New North American Sarcophagidae, with some new synonymy: Diptera. (Entomological Society of America. Annals, Mar. 1956. v. 49, no. 2, p. 182–90, 2 plates.) 6 refs.

Two new genera and four new species are described. Keys are given to the United States species of *Chaetoravinia* and some new synonymy is presented. Sarcophaga wrangeliensis is recorded at Fort Wrangell, Alaska, and at Churchill, northern Manitoba. *Copy seen:* DLC.

**DODIMEAD, A. J.,** see Canada. Joint Committee on Oceanography. Annual reports . . . 1955–56. 1956. No. 44266.

**44639.** DÖÖS, BO R. Automation of 500 mb forecasts through successive numerical map analyses. (Tellus, Feb. 1956. v. 8, no. 1, p. 76–81, table, maps.) 6 refs.

Contains description of an experiment carried out in Sweden to determine to what extent it is now possible to automatize the analysis and forecasting of the 500 mb surface. Particularly in high latitude regions where the normal has great influence, a better result is achieved by the use of the predicted 30-day means of the 700 mb surface extrapolated for the 500 mb level, instead of using ordinary normal heights. A saving of 3-4 hrs. in time and of personnel has been realized.

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DOGGETT, MARGARET C., see Holt-

kamp, D. E., and others. Effect . . . metabolic antagonists on body-temperature . . . rats. 1956. No. 45594.

44640. DOKHUNAEV, V. N. Znatnyĭ ovoshchevod lAkutii. (Sad i ogorod, Apr. 1956, no. 4, p. 30–31, port.) Text in Russian. *Title tr.*: The outstanding

gardener of Yakutia.

Notes achievements of the Stalin prize winner M. G. Egorov on the occasion of his 70th birthday. He is gardener and vegetable grower on the collective farm Novaya Zhizn' in the (Megino-) Kangalasskiy District of Yakutia (approx. 62°25' N. 130° E.). Despite severe climate and permafrost, M. Egorov and his team gathered 250–340 cwt. of cabbage and over 120 cwt. of cucumbers and tomatoes from a hectare. His methods are briefly sketched.

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DOKUCHAEV, VASILIĬ VASIL'EVICH, 1846–1903, see Liehkov, B. L. O zakone gorizontal'noĭ zonal'nosti . . . 1954. No. 46347.

44641. DOLGIKH, BORIS OSIPO-VICH. Éntây. (In: Akademiîa nauk SSSR. Institut étnografii. Narody Sibiri, 1956. p. 661-64, illus.) 6 refs. Text in Russian. Title tr.: Entsy.

Past and present distribution of this Samoyed people (now mainly between the Yeniseyskiy Gulf and Pyasina River), their language and history are outlined. Decimated by epidemics and tribal warfare, and assimilated by the Nentsy and Nganasany, they numbered but 378 in 1926. Their native economy (hunting, fishing, reindeer herding) and way of life are discussed and compared with the Nganasans' (Tawgi-Samoveds). With creation of sovkhozes and kolkhozes, their nomadism continued in the hunting and herding brigades. Use of the late G. D. Verbov's materials is acknowledged.

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DOLGIKH, BORIS OSIPOVICH, see also Popov, A. A. Kety. 1956. No. 47414. 44642. DOLGOPOLOV, N. N. K severnomu politisu naprolom. (Znanie-Sila, Oct. 1956. god 31, no. 10, p. 10-11, illus.) Text in Russian. *Title tr.:* Breaking through to the North Pole.

Discusses Makarov's idea of penetrating into the Arctic Basin with ice-breakers; experimental devices for crushing the ice with ultra-sonic waves or with electric currents of high frequency are suggested to increase ice-breaker efficiency.

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44643. DOLGOV, S. I. O razmeschchenii sistem zemledeliâ po territorii SSSR. (Zemledelie, Oct. 1956. god 4, no. 10, p. 19–27, maps.) 2 refs. Text in Russian. *Title tr.:* Distribution of systems of agriculture on the territory of the U. S. S. R.

Sets forth a tentative division of the U. S. S. R. into 25 agricultural zones or provinces, based on study of soils and climatic conditions. The North European taiga zone, embracing Kola Peninsula, Karelia, and the Pechora basin, also the Central Yakutia taiga zone, are included in the list, briefly characterized (p. 22), and their location and extent shown on map.

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**DOLGUSHIN, L. D.,** see Obruchev, S. V. Spravochnik puteshestvennika . . . 1949–50. No. 47123.

44644. DONALD, K. G. Pitchblende at Port Radium. (Canadian mining journal, June 1956. v. 77, no. 6, p. 77–79, 2 tables.)

The Eldorado mine on the east shore of Great Bear Lake lies within a series of Precambrian sediments and tuffs which have been invaded by porphyritic and granitic intrusives. All rocks are cut by late diabase dikes and sills. The pitchblende deposits occur in vein-filled fractures and shear zones. Geologic formations and the major fracture system are described. At least five distinct stages of mineralization are represented in the vein zones. These stages are shown in a table in which they are related to principal areas of deposition and to stages of hydrothermal wall rock alteration. Types of wall rock alteration are briefly described. Copy seen: DGS.

DONN, WILLIAM L., see Ewing, M., and W. L. Donn. A theory of ice ages. 1956. No. 44828.

DONNELLY, CELESTE, see Stone, H. H., and others. The effect of lowered

body temperature on the cerebral hemodynamics . . . 1956. No. 48216.

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44645. DONNELS, AL T. Excavations and foundations. [Washington, D. C.] 1956. 2 p. l., 8 p. (In: U. S. Office of Naval Operations. The dynamic North, v. 2, no. 5.)

Large-scale excavation and foundation factors encountered in the construction of airdromes and heavy structures in Alaska are discussed. Particular attention is given to proper engineering methods in permafrost areas. The problems of gravel and rock occurrence in Alaska, drainage, and spoil disposal are considered.

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44646. DONNELS, ALT. Structures in Alaska. [Washington, D. C.] 1956. 2 p. l., 6 p. (In: U. S. Office of Naval Operations. The dynamic North, v. 2, no. 8.)

Contains a brief climatic description of Alaska and design criteria for docks, warehouses, power plants, storage and repair, also nose hangars, utilidors, fire stations, and storage tanks. The importance of selecting proper earthquake design factors before major construction is noted, and the use of local materials in construction is discussed briefly. Copy seen: DLC.

44647. DONNER, JOAKIM. Istiden. (Finlands natur, 1954. årg. 13, p. 9–16, illus.) Text in Swedish. *Title tr:* The ice age.

The background of bedrock geology and deposits of the last glacial period make Finland an ideal place for study of the ice age. Inorganic and organic investigations contributing to ice age interpretation are explained, and the importance of research in periglacial areas is emphasized. *Copy seen:* DLC.

44648. DONOGHUE, LORRAINE, and C. LUCIER. The University of Alaska Eskimo music and folklore project. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 121–25.) 3 refs.

Music and folklore has been recorded on magnetic tape at Unalakleet, Kotzebue, and other West Alaskan villages, with additional examples from Pt. Hope, Barrow, etc., and Siberia. The Eskimo informants are mostly in the group aged 50-70 years. Some of the material is listed; a few of the songs and their origin are described; a large proportion are pre-Christian, with ritual and religious significance. The music is characterized.

Analysis of both music and songs is still in progress. Copy seen: DGS.

44649. DONOVAN, B. T., and J. J. VAN DER WERFF TEN BOSCH. The cervical sympathetic system and light-induced oestrus in the ferret. (Journal of physiology, Apr. 1956. v. 132, no. 1, p. 123-29, illus.) 19 refs.

Removal of the superior cervical or stellate ganglia produced a marked Horner's syndrome in females, delayed the oestrus response to illumination by reducing the amount of light affecting the retina, but did not affect mating, pregnancy, parturition or lactation after oestrus ensued. Removal of the thyroid did not alter the oestrus response to extra light.

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44650. DONS, JOHANNES A. Kartkatalog Norges berggrunn. Catalogue of maps. Bed-rock geology of Norway. Oslo, H. Aschehoug, 1956. 146 p., fold. map. (Norway. Norges geologiske undersøkelse. nr. 193.) Text in Norwegian and English.

Records published maps on bedrock geology covering all or parts of Norway, from large colored general geological maps to black and white text figures, in both Norwegian and foreign publications. Block diagrams are included when they have good topographic detail; also topographic maps in which strike and dip and/or fold axes are shown. Maps showing bedrock exposure but not type of rock are omitted, as are topographic maps showing only mine symbols, and mine maps of horizontal underground The catalog is in three parts: the first lists maps by quadrangles (reference grid shown on index map) from north to south, about a thousand (with some repetition when maps cover more than one grid square) representing the region north of the Arctic Circle, References are chronological within each square. The second and third parts contain a selection of general geological maps of certain sections in south and central Norway and of Norway as a whole, northern Norway (10) and southern Norway. Copy seen: DGS.

44651. DOROFEEV, I. M. Uluchshenie ukhoda za snego-zashchitnymi lesnymi polosami. (Zheleznodorozhnyĭ transport, Mar. 1956, god 37, no. 3, p. 83.) Text in Russian. *Title tr.*: Improvements in timber belts for snow protection. A method of cyclic cutting and planting of trees of different stocks is described for maintaining normal growth and continuous protection against snow drifts. The first row is usually brush wood, the second, locust, elm and apple trees, with oak, maple, pine etc. comprising the rest of the shelter belt. Copy seen: DLC.

44652. DORRESTEIN, R. Bemerkungen zu den Wellenbeobachtungen der Wetterschiffe im östlichen Nordatlantik. (Deutsche hydrographische Zeitschrift, 1955. Bd. 8, Heft 5, p. 177–86, diagrs., tables.) 7 refs. Text in German. Title tr.: Remarks on wave observations by weather ships in the eastern North Atlantic.

Average values and frequency distributions of wave data according to Netherlands observations are compared, on Station A (62° N. 33° W.), with data according to United States observations; on Station J (52° N. 20° W.), with data from British observations; on Station K (45° N. 16° W.), with data from French observations; and on Station M (66° N. 2° E.), with data from Norwegian observations. On each of these stations national differences in the observation of waves are shown to exist. Consequently it is difficult to prove the reality of regional differences between wave data in different parts of the North Atlantic.

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44653. DORST, JEAN, 1924— . Les migrations des oiseaux. Paris, Payot, 1956. 419 p., illus, tables, maps. About 400 refs. Text in French. Title tr.: The migrations of birds.

Contains a comprehensive study of the problems, including its variants (e. g. invasions), physiology and evolution. Introductory account of the ancient conceptions on migration (p. 17-27) and of methods of study (p. 28-43), is followed by broad regional treatment. Arctic forms and problems are dealt with in the sections on European and North Asian migrations (p. 44-116) and those of North America (p. 117-34); and they include wild ducks and geese, cranes, the golden plover, etc. The chapter on the migration of marine birds (p. 162-99) includes the arctic tern, petrels, puffins and others. The problem of hibernation in birds is discussed (p. 281-86), and numerous, scattered references to arctic birds are found in subsequent chapters on physiological determinants and "impulsions" of migrations (p. 287-337); problems of orientation (p. 338-90) and the origin and evolution of migration (p. 391-409). References are added to each chapter, and an index of scientific and popular names completes the work. *Copy seen:* DLC.

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DRALKIN, ALEKSANDR GAVRILO-VICH, see Morozov, S. T. Tri dreffufushchie stantsii. 1956. No. 46852.

44654. DRANITSYNA, Ū. A. Issledovanie zhirnogo masla tolstorebernika al'piľskogo Pachypleurum alpinum Ldb. (Akademi\hata) nauk SSSR. Botanicheskiť institut. Trudy, 1955, ser. 5, Rastiteľnoe syr'e, vyp. 5, p. 85–89, diagr.) 7 refs. Text in Russian. Title tr.: An investigation of the fatty oil of Pachypleurum alpinum Ldb.

Specimens of this arcto-alpine perennial inhabiting northern Europe an U. S. S. R. and Siberia, were obtained in central Taymyr Peninsula (74°36′ N.) in July and August. Analysis showed the roots to contain 23.3 percent fatty oil which has 1.35 percent saturated acid, 64.33 percent linoleic acid, 20.05 percent oleic acid and 14.27 percent linolenic acid.

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44655. DRASTRUP, ELMAR. En vinter på Hvalrosodden. (Grønland, Dec. 1956, nr. 12, p. 451–56, illus.) Text in Danish. *Title tr.:* A winter at Hvalrosodden.

Impressions from a winter at Hvalrosodden (77° N. 20° W.) on Dove Bugt, northernmost of the Danish trapping stations in East Greenland, with emphasis on psychological effects of darkness, loneliness, enforced idleness, cold, etc.

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DREIMANIS, VALDA, see Loewe, F. P. Uber den Firnstoss . . . Inlandeis. 1956. No. 46433.

DREIMANIS, VALDA, see Maksimov, I. V. Determining . . . annual flow of Pacific waters . . . Arctic Ocean . . . 1956. No. 46569.

44656. DREMLÎÜG, VALENTIN VAL-ENTINOVICH. Gorîachie klûchi. (Znanie-sila, Mar. 1956, no. 3, p. 30, illus.) Text in Russian. *Title tr.*: Hot springs.

During a winter trip by reindeer-sledge in Chukotka, the author visited Goryachiye Klyuchi, hot springs on Senyavina Strait, 50 km. north of Provideniya Bay. The locality, the springs (water up to 95° C.), the bathing hut used even in winter,

etc., are described; other hot springs in the same area and their effect on flora and fauna are noted. **Copy seen:** DLC.

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44657. DREMLŪG, VALENTIN VALENTINOVICH.

zemel' Arktiki. Moskva, Gos. izd-vo geogr. lit-ry, 1956. 44 p. illus., map. 13 refs. Text in Russian. Title tr.: Secret of vanished lands in the Arctic.

Contains account of the "discovery" and the disappearance of so-called hypothetical lands Krest'yanka, Gillis, Zemlya Polyarnikov, Takpuk, Zemlya Andreyeva and Zemlya Sannikova. The disappearance of small islands: Vasil'yevskiy and Semenovskiy is noted also. Ice islands found drifting in the Arctic Basin by Soviet and American fliers are discussed and their origin is explained. The drift of ice in the Basin and explorations of the Soviet drifting stations "North Pole 1-5" are described, after V. F. Burkhanov (No. 33829). Copy seen: DLC.

44658. DREVER, HARALD IRVING, 1912— . The geology of Ubekendt Ejland, West Greenland, part II; the picritic sheets and dykes of the east coast. København, C. A. Reitzel, 1956. 39 p. illus. incl. 31 on 12 plates, diagr., tables. (Meddelelser om Grønland, bd. 137, nr. 4.) 34 refs.

General geology of this island (71°10' N. 53°40' W.), was dealt with in pt. I (Arctic Bibliography, No. 4116), based on work of the Cambridge West Greenland Expedition, 1938, and the St. Andrews University West Greenland Expedition, More data and specimens were 1939.obtained during the British West Greenland Expedition of 1950. Three picritic (olivine-rich basaltic) dikes and four New evidence is sheets were studied. presented on the problem of origin of picritic rocks. Regional setting and local relations of the dikes and sheets, and field and laboratory methods are briefly described. Petrography (with chemical analyses) and petrogenesis of the dike and sheet rocks are discussed in some detail. Copy seen: DGS.

44659. DROBYSHEVSKIĬ, G., and K. MAKAROV. Osobennosti poletov na vertoletakh v slozhnykh meteorologicheskikh usloviñakh. (Grazhdanskaña aviaśiña, July 1956. god 13, no. 7, p. 17–18, illus.) Text in Russian. Title tr.: Peculiarities of helicopter flight in complicated meteorological conditions.

Advice for helicopter pilots, including such on icing. Copy seen: DLC.

44660. DROZDOV, I. Zhizn' v aviatsii. (Grazhdanskafa aviatsifa, Mar. 1956. god. 13, no. 3, p. 8-10, parts.) Text in Russian. Title tr.: Life in aviation. Sketches from the life of aircraft mechanic, Fedor Ivanovich Groshev; his work with the arctic flier M. S. Babushkin in the White Sea area in 1928, and during the search expedition on icebreaker Malygin for Nobile and his companions. Copy seen: DLC.

44661. DRUCKER, PHILIP, 1911— . Archeological survey on the northern Northwest Coast. (U. S. Bureau of American Ethnology. Bulletin 133, Anthropological papers no. 20, pub. 1943, p. 23–132, illus., diagrs., tables, fold. map.) 61 refs.

Presents results of author's survey in 1938 and attempt to integrate published and museum materials. Exploration, trade, native-European contacts, etc., in the 18th-19th centuries are reviewed and the tribal distribution mapped. artifacts (including northern aspect, i. e. Tlingit-Haida-Tsimshian, p. 120-25) are described and tabulated, and the geological provenience horizons graphed. The Tlingit ties to the southwest Alaskan Eskimo cultures are noted and the Tlingit Eskimoid artifacts (barbed bone arrow and harpoon-arrow points, throwingboards, etc.) mentioned.

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44662. DRUMMOND, R. NORMAN, and others. Investigations in the boreal forest of Labrador-Ungava, 1948–1951. (In: International Geographical Union. Eighth General Assembly and Seventeenth International Congress, Washington, D. C., Aug. 8–15, 1952. Proceedings, pub. 1956? p. 248–54, 10 illus., table.) 4 refs. Other authors: I. A. McKay and F. K. Hare.

Aerial photographic study of vegetation in the Labrador Peninsula has been carried out since 1948 by a McGill University Group directed (mainly) by F. K. Hare. Cover types have been classified under four main divisions: close forest, lichen woodland, muskeg, and miscellaneous (water, bare rock, burned-over areas); and three field traverses made to test validity of this classification. Vegetation is described as observed along the Romaine River by R. N. Drummond

and H. N. Lash in summer 1949, Lake Melville-Mealy Mts. by I. A. McKay in summer 1951, and Koksoak-Kaniapiskau Rivers by Drummond, summer 1951. Cf. No. 40266 and 45439.

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44663. DRURY, H. F., and S. G. SMITH. Alaskan wild plants as an emergency food source. (*In*: Alaskan Science Conference. . 1953. Proceedings, pub. 1956, p. 155–59, 4 tables.)

Contains information on the Arctic Aeromedical Laboratory's survey of Alaskan edible wild plants; compiling a list of them; chemical analysis; field studies on: habitat, distribution, associations, etc.; seasonal distribution; availability; food value and its seasonal changes; value for human survival; poisonous plants resembling edible forms.

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4464. DRURY, WILLIAM HOLLAND, 1921— . Bog flats and physiographic processes in the upper Kuskokwim River region, Alaska. With suggestions for the origin of certain mucks, an examination of the nature of the local plant associations, and a discussion of the implications as to periglacial climates. Cambridge, Mass., Aug. 1956. 130 p. illus., text maps, diagrs. (Harvard University. Gray Herbarium. Contribution, no. 178.) 135 refs.

Bogs of regional extent which engulf forests and replace them in successional sequence are closely related to geological processes. Physical geography, geological and vegetational aspects of the bogs on the upper Kuskokwim (62°-63°30' N. 154°-156° W.) are summarized on the basis of writer's field work in summers The floodplain, the 1949 and 1950. physiographic processes involved in bog formation and types, the geobotanical processes and sedimentary deposits are described. Vegetation of the flood-plain and bogs, successional sequence, plant associations are presented with comparison of vegetation in Scandinavia. Geological and botanical implications of the studies are discussed, with particular regard to periglacial climate and vegetation during the Pleistocene. Appended are list of bog flora and glossary of terms used in text. Copy seen: DGS.

44665. DRURY, WILLIAM HOLLAND, 1891- . The ecology of the natural origin of a species of *Carex* by hybridization. (Rhodora, Mar. 1956. v. 58, no. 687, p. 51-72, 2 illus.) 6 refs.

Contains English and Latin description of C. paludivagans n. sp. growing on soligenous bogs and bog-invaded ox-bow lakes of the upper Kuskokwim River region of Alaska. The biology of the Carex population in the region, which seems to be of hybrid origin, indicates that it has reached species status, because it fruits abundantly over a wide area and maintains its identity both in presence and absence of the suggested parental species, C. rotundata and C. rostrata. Tabulation of characteristics of these species, character index and tabulation of characters in different habitats are given. These data prove that there is a uniform and fertile population of C. paludivagans which is more abundant and widespread than both parents, and the author is convinced that this constitutes a species. Copy seen: DA.

44666. DRYDEN, HUGH LATIMER, 1898— . The International Geophysical Year, man's most ambitious study of his environment. (National geographic magazine, Feb. 1956. v. 109, no. 2, p. 285–98, 13 illus., 2 text maps.) 11 refs.

Popular review of the program and research problems to be studied in 1957–1958 by some 5,000 scientists representing more than 40 countries. Arctic and Antarctic projects are noted.

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DRYER, ROBERT L., see Elliott, R. A., and R. L. Dryer. Hypervitaminosis A... case . . . adult. 1956. No. 44766.

DRZHEVETŠKIĬ, VSEVOLOD, see Derrûgin, K. M., and V. Drzhevetskii. Otchet o polezdkie . . . 1898. No. 44608.

44667. DÚASON, JÓN. Materialien zur jüngsten Gestaltung der Grönlandfrage. (Europa Archiv, July 20, 1956. Jahr 11, Folge 14, p. 9035–9040.) 16 refs. Text in German. *Title tr.:* Materials for the latest development of the Greenland problem.

Outlines the Icelandic view on the international status of Greenland: from the first settlements of Vikings, Greenland was colonized by Iceland; and Denmark never had sovereignty over it. The decision of April 5, 1933 of the Permanent Court of International Justice at The Hague, was strictly limited to the scope of Danish-Norwegian conflict, and is not to

be construed as recognition of Danish sovereignty over the whole of Greenland. **Copy seen:** DLC.

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44668. DUBININ, V. B. Paukoobraznye, t. 6, vyp. 7; per'evye kleshchi. Analgesoidea, ch. 3, semelstvo Pterolichidae. Moskva-Leningrad, Izd-vo Akadnauk SSSR, 1956. 813 p. 398 illus. (In: Fauna SSSR. Arachnidea, t. 6, vyp. 7 (nov. ser. no. 63).) 403 refs. Text in Russian. Title tr.: Arachnids: the feather mites. Analgesoidea, pt. 3, family Pterolichidae.

Contains a systematic index of the species, characteristics of the family, tables for the determination of the subfamilies, genera and species. Some 122 species are described, eight and one subspecies as new. Synonyms are given; taxonomy, morphology, biology and ecology are considered for each species; and geographic distribution shown on numerous text maps. For the economically important species, additional data are supplied on pathogenic importance, hosts (birds), life cycle, also methods of control and prophylaxis. Many species native to northern regions of the U.S.S.R. are included. Alphabetic indexes of the feather mites and the (host) birds are appended. Parts 1 and 2 of this work were listed previously as No. 28822 and Copy seen: DIC No. 28823.

44669. DUBNITSKIĬ, A. A. Puti zarazheniâ pestsov untsinariozom. (Karakulevodstvo i zverovodstvo, Sept.—Oct. 1956. god 9, no. 5, p. 45–46.) Text in Russian. *Title tr.:* Ways of infection with uncinariasis in arctic foxes.

Report on experiments and observations concerning infection with Uncinaria
stenocephala. Invasion was found to take
place by ingestion of the larval stages
found in food or water; within two weeks
the larvae are fully developed. The
same parasite infects red foxes and
preventive measures are identical in both
species.

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44670. DUBOV, ARKADIĬ BORISO-VICH. Issledovaniâ po tekhnologii dobychi kroshkoobraznogo torfa povyshennogo kachestva. (Akademiâ navuk BSSR, Minsk. Instytut torfa. Trudy, 1955. t. 4, p. 30–48, illus., tables, graphs.) 3 refs. Text in Russian. Title tr.: Study of the technology of production of high quality crumbled peat.

Advantages in production and use of crumbled peat are discussed in detail.

Particular attention is given to the preparation of the peat ground (cutting, crushing and shaping), drying and excavation. Laboratory studies of production methods and quality of the final product include physical and mechanical properties of the "crumbs," fractional composition, water absorbability and thermal stability. In conclusion some characteristics are given for a new type of "grain" peat fuel.

\*\*Copy seen: DLC.\*\*

44671. DUBOV, ARKADIĬ BORISOVICH, and V. M. NAUMOVICH. Uluchshenie kachestva frezernogo torfa, neotlozhnañ zadacha torfiânogo proizvodstva. (Akademiâ navuk BSSR, Minsk. Instytut torfa. Sbornik nauchnykh trudov, 1951. vyp. 1, p. 29–40, tables, graphs.) 3 refs. Text in Russian. Title tr.: Improvement in the quality of milled peat is the urgent problem of the peat industry.

The mechanized production of milled peat is described. The quality of the product is considerably improved by systematic mechanical crushing (mellowing) of the upper layer of peat before drying in the field and excavation. The milling or chopping process further improves the quality and about doubles the peat density and production from the same area. Fine crushed peat is less self-heating.

\*\*Copy seen: DLC.\*\*

44672. DUBROVO, I. A. O pervol nakhodke primitivnogo slona Elephas meridionalis Nesti na severe Sibiri. (Akademiĥa nauk SSSR. Komissiĥa po izucheniĥi chetvertichnogo perioda. Bĥilleten', 1953. no. 19, p. 76–79, illus., tabie.) 9 refs. Text in Russian. Title tr.: The first find of the primeval elephant Elephas meridionalis Nesti in northern Siberia.

Describes an elephant tooth found in the Vilyuy River basin; its peculiar characteristics (discussed) suggest that it is of Elephas meriodionalis Nesti, the northernmost trace of this extinct species. The paleontological significance of the find is noted.

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44673. DUCKER, A. J. Effects of freezing on five kinds of canned vegetables.
Toronto, Dec. 1954. 5, 8 p. tables. (Canada. Defence Research Medical Laboratories. Report no. 54-1, tables.) 8 refs.

Canned carrots, corn (two styles), peas and tomatoes were frozen and thawed up to 16 times, and subsequently rated for taste and by physical and chemical standards. Tomatoes broke up when frozen once, creamed corn showed curdles (which disappeared in cooking). Otherwise slight changes in color, flavor and texture were noted.

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44674. DUFOUR, DIDIER, and others. Effet de l'hormone somatotrope chez le rat surrénalectomisé exposé au froid. (Société de Biologie, Paris. Comptes rendus, 1955. t. 149, no. 15-18, p. 1722-25, tables.) 6 refs. Text in French. Other authors: L. P. Dugal and A. Des Marais. Title tr.: Effect of somatotropic hormone upon the adrenalectomized rat exposed to cold.

Account of experiments which indicate that the somatotropic hormone (STH) is incapable of promoting normal growth of adrenalectomized rats in cold environment; nor could it, in combination with desoxycorticosterone, insure total survival of such animals in the cold.

Copy seen: DNLM.

44675. DUFOUR, DIDIER, and L. P. DUGAL. Effet de l'hormone somatotrope sur la resistance du rat exposé au froid. (Société de Biologie, Paris. Comptes rendus, 1955. t. 149, no. 21–22, p. 2056–60, tables.) 6 refs. Text in French. Title tr.: Effect of somatotropic hormone upon the resistance of the cold-exposed rat.

Under conditions of these experiments, this hormone prevented the following stress manifestations: death, growth inhibition and increased N-excretion. It also retarded adaptation to cold.

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44676. DUFRESNE, C., and H. E. NEAL. Distribution of the Sokoman formation in the Labrador Trough south of latitude 56° N. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1688.)

Abstract of paper submitted for Society meeting in Minneapolis, Oct. 31–Nov. 2, 1956. This formation of Huronian-type iron-bearing sediments is 350–750 ft. thick and occurs as several distinct bands over an area 15–35 mi. wide in the western Labrador Trough. The area is divided into western, central, and eastern zones, and for each characteristics of the formation are briefly described.

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DUGAL, LOUIS PAUL, 1911-, see Dufour, D., and others. Effet de l'hor-

mone somatotrope . . . le rat . . . exposé au froid. 1955. No. 44674.

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DUGAL, LOUIS PAUL, 1911— , see also Dufour, D., and L. P. Dugal. Effet de l'hormone somatotrope . . . rat exposé au froid. 1955. No. 44675.

DUGAL, LOUIS PAUL, 1911—, see also USQM Food & Container Institute, Nutrition symposium. 1954. No. 48643.

DU HALDE, JEAN-BAPTISTE, 1674–1743, see Grekov, V. I. Naibolee rannee pechatnoe izvestie . . . 1956. No. 45287.

44677. DUMAN, MAXIMILIAN GEORGE, 1906. Three new North American varieties of Kobresia. (Torrey Botanical Club. Bulletin, May. 1956. v. 83, no. 3, p. 192-95, 15 illus.) 4 refs.

Contains descriptions of K. hyperborea var. alaskana n. var. and K. h. var. lepagei n. var., both from Alaska, also K. simpliciuscula var. americana n. var. from the west side of the Koksoak River (57°42' N.) in northern Quebec.

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44678. DUMITRASHKO, N. V. Geomorfologieheskií ocherk doliny verkhnel Leny. (Akademiâ nauk SSSR. Institut geografii. Trudy, 1955, vyp. 65, Materialy po geomorfologii i paleogeografii SSSR, 14, p. 196–222, tables.) 33 refs. Text in Russian. Title tr.: Geomorphic outline of the upper Lena River valley.

Based in part on results of his own explorations. Eleven terraces are distinguished in the upper Lena valley as formed by four types of crosion during glacial and postglacial periods. The morphology, stratigraphy, lithology and paleontology of these terraces are outlined in eight sections of the river from its upper reaches to the confluence of the Vitim. Results of spore and pollen analyses are summarized on appended six tables.

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44679. DUNAEV, B. K. Geologicheskie i gidrogeologicheskie izyskanifa pri issledovanii torffanykh mestorozhdenif. Moskva, Gos. énergeticheskoe izd-vo, 1954. 84 p., illus, graphs, tables, incl. fold. 26 refs. Text in Russian. Title tr.: Geological and hydrogeological surveys in the study of peat deposits.

Recent development of the peat industry derives to some extent from the coordinated survey of the geology and hydrogeology of the entire region of a The writer's long experience in such surveys is described, and a method is offered for generalizing hydrogeological and other observational data for evaluation and coordination with the peat Lithological description is deposits. given of the ground, with systematic tabulation of its mechanical characteristics and mineral composition: color, density, moisture and structure. Structure of the peat deposit is studied, with consideration of the water component (liquid, vapor ice), natural movements of ground and ground water; depth of waterbearing layers; their chemical composition and hypsometric disposition in regard to the peat deposits. Important results of analysis of sediments and of metamorphic and volcanic rocks adjacent to water bodies are tabulated and coordinated with the type and distribution of the peat deposit (cf. sections, fig. 8-13). Drilling and instrumentation, engineering and laboratory equipment, particularly that used in evaluation and classification of the ground materials (sand, gravel, rocks, etc.) are described. Copy seen: DLC.

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DUNAEV, B. K., see also Pichugin, A. V., and others. Torfianye mestorozhdenifa . . . 1956. No. 47348.

44680. DUNBABIN, THOMAS. Canada's horn of the unicorn. (Beaver, spring 1956. Outfit 286, p. 8-11, 6 illus.)

Deals with the trade in "unicorn" (narwhal) tusks in historic times to the mid-17th century, and belief in the tusk as talisman against or antidote to poison. Account is given of a narwhal tusk found by the Frobisher expedition (1577) in Frobisher Bay, Baffin Island, given to Queen Elizabeth I. The narwhal, now confined to areas within or near the Arctic Circle, may have been found farther south in earlier times.

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44681. DUNBAR, MAXWELL JOHN, 1914— . The Calanus expeditions in the Canadian Arctic, 1947 to 1955. (Arctic, 1956. v. 9, no. 3, p. 178–90, illus., map.) 18 refs.

A review of the work, whether published or not, concerning the abundance, distribution, and propagation of sea mammals and fish. The areas covered, personnel, logistics of each year's expedition and stations are stated. Results are summarized on the hydrography of the areas explored (the entrances to

Hudson Bay, Ungava Bay); common food fishes, their biology, breeding, growth, migration, etc.; walrus, ringed seal and beluga, their estimated numbers, migrations, food, propagation, etc.; geographical distribution and taxonomy; plankton. The Arctic Unit of the Fisheries Research Board of Canada with headquarters at McGill University is a development of these "Eastern Arctic Investigations." Copy seen: DLC.

44682. DUNBAR, MAXWELL JOHN, 1914— . McGill in the North, 1956. (McGill news, Autumn 1956. v. 37, no. 4, p. 21, 55.)

Contains a survey of field activities of McGill graduate students and staff in biology, zoology, fisheries, physical geography, transport geography, meteorology, forest ecology and agricultural geography, exploration geology, archeology. Regions covered in northern Canada include Baffin Island, Gulf of Boothia, northern Hudson Bay and Southampton Island, Foxe Basin, Beaufort Sea, Yellowknife region, northern Quebec-Labrador, and Firth River region, Yukon; also Godthaab, West Greenland.

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44683. DUNBAR, MAXWELL JOHN, 1914— . Russian plans for the Ob' and Yenisey and the Bering Strait. (Arctic, 1955, pub. 1956. v. 8, no. 4, p. 259–61.) ref.

Discusses possible complex effects of reported Russian plans to dam the Ob' and Yenisey Rivers and divert them southward, also to dam Bering Strait and pump Pacific water northward in very large quantities: effects on weather of northwest Europe; ultimate end of Pacific water pumped north, rate of heat loss, direction taken on entering Arctic Ocean; possible effect on climate of North America and on the East Greenland and Canadian Currents. Copy seen: DLC.

DUNBAR, MAXWELL JOHN, 1914—, see also Grainger, E. H., and M. J. Dunbar. Station list . . . Calanus . . . . 1953–54. 1956. No. 45204.

44684. DUNBAR, MOIRA. Notes on sea ice observed from C. G. S. d'Iberville and C. D. Howe, Aug. 13-Oct. 12, 1955. Ottawa, Jan. 1956. 3 p. 4 charts. (Canada. Defence Research Board. Arctic report no. 4/55.)

Describes and maps ice conditions encountered in Norwegian Bay (southern Ellesmere), Jones Sound, Lancaster Sound, the Resolute Bay region, Baffin Bay, Davis Strait, Hudson Bay and Strait, and Foxe Basin. Writer spent Aug. 13–22 on the C. D. Howe and Aug. 22–Sept. 19 on the d'Iberville during Operation NORS-II (resupply of arctic stations) and accompanied C. D. Howe to DEW-Line site 30 in Foxe Basin Sept. 19–Oct. 12. Ice reporting system of the U. S. Hydrographic Office is used. Copy seen: CaMAI.

DUNBAR, MOIRA, see also U. S. Office of Naval Operations. Canadian North. 1956. No. 48635.

44685. DUNENKOV, M. Nad vodami Obi. (Sibirskie ogni, May-June 1956. god 35, no. 3, p. 81-83.) Text in Russian. *Title tr.:* Above the waters of the Ob'.

Describes construction of the Novosibirsk hydroelectric station with planned capacity of 400,000 kwt. to be completed by 1958. Obskoye More, an artificial sea 320 km. long and 20 km. wide is to result from the damming of the river.

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44686. DUNKLE, ROBERT V., and J. T. BEVANS. An approximate analysis of the solar reflectance and transmittance of a snow cover. (Journal of meteorology, Apr. 1956. v. 13, no. 2, p. 212-16,

graph, tables.) 11 refs.

"An analysis was made of the transmission and reflection of a mathematical model approximating a snow cover. The intent of the analysis was to obtain a more reliable picture of the factors influencing the albedo and the energy absorbed. The general case of a slab of finite thickness, irradiated from both sides, is solved and reduced to the case of a semi-infinite slab irradiated from one direction. Reflectance of a snow cover is fairly constant in the visible region but drops rapidly in the infrared region due to the increase in the absorption coefficient with wavelength. Additional data are required on radiation transmission in snow with different structural characteristics, on the correlation of transmittance with snow structure, and on the spectral reflectance of snow."-SIPRE.

Copy seen: DLC.

44687. DURIETZ, TORSTEN. The Nasafjäll region in the centre of the Scandinavian Caledonides. (Geologiska föreningen, Stockholm. Förhandlingar, 1949. bd. 71, häfte 2, no. 457, p. 243–52, 2 illus., 2 maps.) 10 refs.

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The area around Nasafjäll is a gap through the Koli complex of Cambro-Ordovician rocks in the middle of the Scandinavian Caledonian mountains. It is in Sweden (mainly) and Norway, on both sides of the Arctic Circle. The entire gap shows a complex of flat-lying nappes, the lowest member of which, tectonically and stratigraphically, is the Nasafjäll massif, a granite complex of more or less schistose lamellae, and the granite of Krokstrandsnäset, southeast of Nasafjäll on the Norwegian side. Quartz dikes that cut the granite and contain ore are younger than the overthrust Kolicomplex. Copy seen: DGS.

44688. DURLING, G. En bestigning af Kebnekaise. (Svenska turistföreningen, Stockholm. Årsskrift, 1896, p. 278–94.) Text in Swedish. *Title tr.:* A Kebnekaise climb.

Reports an ascent starting from Sjømdalen, Norway, with two Lapps who had accompanied Charles Rabot, on the second expedition up Kebnekaise thirteen years earlier; snow and ice covering the peak in midsummer made climbing difficult. Describes in detail, the landscape of a little reported section of Norway and Sweden northwest of Kebnekaise.

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44689. DUROCHER, JOSEPH MARIE ELISABETH, 1817–1860. Études sur les glaciers du nord et du centre de l'Europe. (Annales des mines, Paris, 1847. série 4, t. 12, p. 3–142, fold. plate, tables.) 25 refs. Text in French. *Title tr.*. Studies on the glaciers of north and central

Europe.

"Characteristics of glaciers in the Pyrenees, Alps, Scandinavia including northern Norway and Sweden, and Spitsbergen are described and compared. The orographic and climatic factors conductive to glacier development in each region are examined, and a formula for determining the capacity of a glacier to develop suggested. Ice-structure, banding, striations, crevasse formation, and the processes of growth and decay are dis-The origin of moraines and the principal causes of rock disintegration and dislocation in polar regions are described. Theories on glacier mechanics and the conditions that determine glacier velocity are examined. Colored snow, the color of glacier ice, glacier torrents, and glacier erosion are also considered. A comparative table of characteristics of the glaciers investigated (and those of the Caucasus) is included."—SIPRE.

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44690. DURRELL, WILLIAM H., and G. LETENDRE. Les gisements de fer de l'Ungava. (Revue de l'industrie minérale, June 1956. Numéro spécial 1F. La mine future, p. 407-417, 16 illus. text map.) Text in French. Title tr.: The iron deposits of Ungava.

Contains brief description of the physical geography and geology of the northern Quebec-Labrador iron region; the iron deposits, their discovery, exploration, geology, and development; construction at Knob Lake and Seven Islands; airlift of personnel and equipment 1950-1953; construction of the Quebec North Shore & Labrador Railway, completed in 1954; open-pit mining methods to date.

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44691. DUTRO, JOHN THOMAS, 1923– . Annotated bibliography of Alaskan Paleozoic paleontology. Washington, D. C., U. S. Govt. Print. Off., 1956. p. 253–87, fold. map. (U. S. Geological Survey. Bulletin 1021–H.) Contains 181 references assembled

Contains 181 references assembled during preparation of new U. S. Geological Survey geologic map of Alaska: taxonomic publications, papers with extensive faunal lists and correlations, and works indicating study of fossils or age determinations made on basis of examination of fossil material; all pub. before Jan. 1954. The references, listed by author, with annotations of 10–100 words are indexed to systems, major taxonomic groups, geographic areas, localities, rock units, and to paleontologists whose determinations are included in papers by other geologists.

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44692. DU VERNET, J. P. An airborne magnetometer survey in the arctic islands. (Canadian mining journal, Mar. 1956. v. 77, no. 3, p. 57-59, illus.)

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Contains general description of the airborne magnetometer and scintillation counter survey (Geological Survey of Canada) in the Queen Elizabeth Islands, June 1955, a supplement to the helicopterground geological reconnaissance of "Operation Franklin." Resolute Bay, on Cornwallis Island was used as base for the Canso aircraft. Navigation problems, the flight Ottawa-Churchill-Resolute, survey flights, and weather condi-

tions are described. Scientific results are not given. Copy seen: DGS.

44693. DUZHKIN, N., and A. LIBER-MAN. Okonnye korobki iz legkogo betona. (Arkhitektura i stroitel'stvo Moskvy, Oct. 1956, god 5, no. 10, p. 31–32, illus., diagr.) Text in Russian. *Title tr:* Window frames of light-weight concrete.

Describes construction of concrete window frames and climatic room tests to determine their strength and thermal resistance under freezing conditions. Tests were conducted for 16 days at temperatures of  $-20^{\circ}$  C. outside the frame and +18° C. inside. The light-weight concrete ("thermal concrete") is com-posed of one part cement, four parts pine sawdust and 1.7 parts water; it was steam-treated for 16 hrs. at 70-80° C. Its strength, initially 60 kg./cm.2 increased in two months to 80 kg./cm.2 In addition to its high frost and heat resistance, "thermal concrete" has the specific ability to hold nails and screws without wooden plugs. Setting of this frame in the building wall with wooden sash glazed and fittings is diagrammed Copy seen: DLC. (fig. 4.).

44694. DYAR, HARRISON GRAY, 1866-1929, and R. C. SHANNON. The mosquitoes of Peary's North Pole expedition of 1908. (Washington Academy of Sciences. Journal, Feb. 19, 1925. v. 15, no. 4, p. 77-78.)

Contains descriptions of Aëdes pearyi and A. labradorensis n. spp. from Hawk's Harbour, Labrador; also notes on two other species, including A. alpinus from Godhavn, and Holstenborg, Greenland.

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44695. DYAR, HARRISON GRAY, 1866-1929. The mosquitoes of the United States. (U. S. National Museum, Proceedings, June 28, 1922. v. 62, art. 1, no. 2447, p. 1-119.)

Contains a discussion of mosquito fauna of the region "between the Canadian and Mexican boundaries, including southern Florida and Alaska," and its subdivisions; keys to the tribes, genera and species are followed by a systematic list of about 150, with brief descriptions, synonyms, U. S. records and data on general distribution. About twenty species are recorded in Alaska.

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44696. DYAR, HARRISON GRAY, 1866–1929. Notes on Alaskan Arctiidae. (Entomological news, May 1899. v. 10,

no. 5, p. 130-31.)

Contains description of Hyphoraia subnebulosa n. sp. (Nushagak, Point Barrow and Bethel), also critical notes and distributional data on five other species from Alaska. Copy seen: DA.

DYCE, R. B., see Bowles, K. L., and others. Auroral zone absorption of radio waves . . . 1955. No. 44109.

DYCE, R. B., see also Little, C. G., and others. Radio wave propagation . . . 1956. No. 46397.

44697. DYE, HAROLD ELDON. Under the north star. Atlanta, Southern Baptist Convention, Home Mission Board, 1954. 96 p. illus. (1955 graded series of Home Mission studies. Home

Mission outposts.)

Popular account of the author's visit to Alaska "on a writing assignment" for the Southern Baptist Home Mission Board. He traveled some 7,000 miles in the southern and west-central parts of the Territory. The work of 14 churches and eight missions is described in Anchorage, Seward, Palmer, Valdez, Kotzebue, Fairbanks, Juneau, and Ketchikan.

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44698. DYLIK, JAN. Peryglacjalne osady stokowe rytmicznie warstwowane. (Biuletyn peryglacjalny, 1955. nr. 2, p. 15–32, 175–85, 251–60, illus., 2 graphs.) 28 refs. Text in Polish, English, and Russian. *Title tr.*: Rhythmically stratified periglacial slope deposits.

A discussion of the terminology, structure and texture, distribution, occurrence, and genesis of stratified periglacial slope deposits, including brief descriptions of those seen in the Disko area, West Greenland, and the Isfjord region, Vestspitsbergen, as well as areas in France and Poland.

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44699. DYLIKOWA, ANNA, and J. OLCHOWIK-KOLASIŃSKA. Procesy i struktury w strefie czynnej zmarzliny. (Biuletyn peryglacjalny, 1955. nr. 2, p. 47–58, 197–203, 269–75; nr. 3, p. 31–38, 119–24, 161–65.) 100 refs. Text in Polish, English, and Russian. Title tr.: Processes and structures in the active zone of perennially frozen ground.

Terminology of English, French, German, Russian, and Polish scientists is

reviewed and compared, as it designates processes of ground freezing and thawing, ground deformation, the science of frozen ground, frost heave, and ice formation in frozen strata. Applicability and accuracy of both current and proposed terms are considered.

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44700. DYMOND, JOHN RICHARD-SON, 1887—, and W. B. SCOTT. Fishes of Patricia portion of the Kenora District, Ontario. (Copeia, Nov. 21, 1941, no. 4, p. 243–45.)

Contains an annotated list of 34 species, based on specimens collected by Royal Ontario Museum of Zoology parties during summers of 1938–1940, in the Favourable Lake area (52°50′ N.), Lake Attawapiskat (52°10′ N.) and Fort Severn (56° N.).

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44701. DZENS-LITOVSKIĬ, A. I. K voprosu ob ispol'zovanii vod velikikh sibirskikh rek. (Geograficheskoe obshchestvo SSSR. Geograficheskii sbornik, 1954. no. 6, Voprosy izucheniâ vodnykh resursov, p. 153-71, fig., map.) 18 refs. Text in Russian. *Title tr.*: Utilization of waters of the great Siberian rivers.

In 1868, the Russian engineer IA. G. Demchenko (q. v.) submitted a memorandum to the Russian Geographical Society on the possibility of utilizing Ob'-Irtysh waters to irrigate the arid areas of the Aral-Caspian region, and some 80 years later, M. M. Davydov advanced the same idea. The latter's plan found support from the Ministry of Electrical Stations of the U.S.S.R. and funds were assigned for preliminary investigations. Both plans, and others of smaller scope, are discussed. The significance of their realization to the country's economy is stressed. Copy seen: DLC.

44702. DZERZHINSKIĬ, IV. V respublike Komi. (Sovetskaſa muzyka, July 1956. god 20, no. 7, p. 122–23.) Text in Russian. *Title tr.:* In the Komi republic.

Describes visit to music and folk dance centers in Komi A. S. S. R., including Vorkuta which also has a professional theater.

Copy seen: DLC.

DZHAKSON, M. N., see Semerov, P. F. and M. N. Dzhakson. Tekhno . . . analiz Takhtarvumchorrskogo mestorozhdeniâ. 1933. No. 47897.

44703. DZHALEPOV, A. K. Chto meshaet razvitiû drifternogo promysla v otkrytoï chasti Barentsova morâ.

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(Rybnoe khozalstvo, Mar. 1956. god 32, no. 3, p. 41–42.) Text in Russian. *Title tr.*: What hinders the development of drift fisheries in the open parts of the Barents Sea.

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Discusses reasons for the poor herring catches in this area during the 1954-55 season, viz: insufficient utilization of the ship capacity (tonnage); failure to make use of nearby ports as bases, or of advanced methods of fish detection; insufficiency in nets, etc.

Copy seen: DLC.

EADE, N. R., see Hutcheon, D. E., and others. Adrenochrome hypothermia . . . 1956. No. 45661.

44704. EAKIN, HENRY MINER, 1883-1936. The conditions of "antiplanation" in sub-arctic regions. (Washington Academy of Sciences. Journal, Apr. 4, 1914. v. 4, no. 7, p. 171.)

Contains a discussion of the flat-topped accumulation of loose rock which is a topographic feature in central and western Alaska: flat-topped hills, ridges, passes and terrace-like forms, etc. They are results of the action of morphologic process distinct from the processes of aqueous erosion. The process is termed "antiplanation," a specific process that is active in forming high level flats and plains.

Copy seen: DLC.

44705. EAKIN, HENRY MINER, 1883–1936. The Quaternary history of central Alaska. (Washington Academy of Sciencies. Journal, Feb. 4, 1917. v. 7, no. 3, p. 81.)

Central Alaska is divided between uplands formed by solid rocks, and a number of basins floored with Quaternary sediments that head far inland. In Quaternary time the normal drainage outlets were temporarily dammed, large areas were inundated and silted up, new outlets through low passes in the rims of old basins were formed, and the drainage of the whole region was reorganized. Various hypotheses as to the nature of the dams were considered.

Copy seen: DLC.

44706. EAKIN, HENRY MINER, 1883–1936. Quaternary problems of central Alaska. (Washington Academy of Sciences. Journal, May 19, 1913. v. 3, no. 10, p. 301–302.)

Contains a discussion of topographic irregularities of river valleys developed in part at least, in Quaternary time. The drainage then had little resemblance

in arrangement to that of today. "The hypothesis advanced involves the ponding of water in the old drainage basin by glacial obstruction: the establishment of drainage lines across the lowest available divides; and the topographic adjustment of the present river systems."

Copy seen: DLC.

**44707. EAKIN, TERRY C.** Armor in the Arctic. (Armor, Sept.-Oct. 1956. v. 65, no. 5, p. 28-29, illus.)

A brief account is given of the performance of military tanks during Exereise Moose Horn conducted in the Big Delta area of Alaska during Jan.-Feb. The maneuver required the units to move some thousand miles in two weeks at temperatures mostly below Engines and weapons performed satisfactorily. Some difficulty was experienced in protecting crewmen from the cold and some complaints were voiced that arctic clothing, as now issued, is too bulky for tank personnel. The Exercise demonstrated that a tank company can haul an infantry battalion's supplies over snow in 2-ton sleds and can travel long distances in the Alaskan winter without losing fighting ability.

Copy seen: DLC.

44708. EASON, D. W., and F. I. MACNAUGHTON. Barbiturate coma with hypothermia. (Lancet, June 1956. v. 270, no. 6927, p. 835–36, illus.) 3 refs.

Contains description of a case of barbiturate coma complicated by hypothermia and frostbite. The effects of cerebral stimulants of supportive measures and of barbiturate antagonists are described. It is thought that hypothermia contributed to this patient's survival.

Copy seen: DNLM.

**44709. EASTWOOD, ALICE, 1859–1953.** Notes on *Arctostaphylos uva-ursi*. (Leaflets of western botany, Aug. 28, 1946. v. 4, no. 11, p. 268–69.)

Includes notes on A. uva-ursi var. adenotricha represented by specimens from Dawson collected by the author on the rocks of Dawson Slide in 1914.

Copy seen: DA.

44710. EASTWOOD, ALICE, 1859–1953. Private herbariums donated to the California Academy of Sciences. (Leaflets of western botany, July 11, 1947. v. 5, no. 3, p. 45–48.)

Includes an herbarium of Mrs. H. C. Cantelow received in 1947, mostly Californian plants (over four thousand mounted specimens) but including many from western America and Alaska.

Copy seen: DA.

44711. EATON, THEODORE H. Earthworms of northeastern United States: a key, with distribution records. (Washington Academy of Sciences. Journal, Aug. 15, 1942. v. 32, no. 8, p. 242–49, illus.) 32 refs.

Includes: Dendrobaena octaedra from Greenland and Bimastos tenuis recorded in Alaska and on Bering Island.

Copy seen: DLC.

EATON, WAYNE, see Couves, C. M., and others. Hematologic changes in hypothermic dogs. 1956. No. 44478.

44712. EBERLIN, PETER, 1862— .
Storisens transport af ler, grus, og sten.
(Naturen, Bergen, 1887. årg. 11, nr. 3, p. 87–89) 7 refs. Text in Norwegian.
Title tr.: Ice transport of clay, gravel, and stone.

Survey of earthy materials transported by ice along the coasts of Greenland raises a question as to the importance of such transport to trawling and dragging operations. It is not certain whether drift ice, carrying materials from its native shores, or berg ice from glaciers is the more important source.

Copy seen: DLC.

44713. EBERT, JOHN. Climbing along the Richardson Highway. (Amercan alpine journal, 1956. v. 10, no. 1, issue 30, p. 130–31.)

Popular account of mountaineering by 31 members of the Iowa Mountaineers during Aug. 1955 in the Castner Glacier region, Alaska Range, about 50 mi. south of Big Delta, Alaska. Several probable first ascents were made.

Copy seen: DGS.

44714. EBNER, MARY JANE, 1930— A selected bibliography on quicksilver. Washington, D. C., U. S. Govt. Print. Off., 1954. 62 p. (U. S. Geological Survey. Bulletin 1019—A, A contribu-

Includes references to geology and mining of quicksilver in Alaska (one reference to Yukon). Reports are grouped as publications of U. S. federal and state agencies, or scientific journals, foreign sources, etc. Author and subject- geographic indexes are appended.

tion to bibliography of mineral resources.)

Copy seen: DGS.

44715. ECKBLAD, FINN EGIL, 1923- . The Gastromycetes of Norway; the epigaean genera. (Nytt magasin for botanikk, 1955. v. 4, p. 19–86, 12 illus.)

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Contains data on previous investigations, morphology, spore dispersal, systematics and nomenclature of this fungi group, also keys. A systematic list of some 40 species is presented with synonymy, brief descriptions, Norwegian localities and data on distribution. At least 12 are recorded in the northern provinces of Norway. Index of species is appended. Copy seen: DLC.

44716. ECKBLAD, FINN EGIL, 1923 - Tulostoma Pers. in Norway. (Blyttia, 1951. bd. 9, hefte 4, p. 116–19, 4 illus.) 7 refs. Text in English. Summary in Norwegian.

Includes report of a find of Tulostoma brumale Pers. in Saltdal, Nordland, at 66°49′ N. lat., on a boulder surrounded by mosses; the northernmost known find of this puffball. Copy seen: DLC.

44717. ECKBLAD, FINN EGIL, 1923- . Oversikt over Norges Geastrum arter. (Blyttia, 1952. bd. 10, hefte 1, p. 1-9, illus.) 20 refs. Text in Norwegian. Title tr.: Summary of Norway's Geastrum species.

Includes references to Geastrum fimbriatum Fr., a fungus from Saltdal, Nordland, first reported in 1826, and at that time misidentified as G. quadrifidum.

Copy seen: DLC.

44718. ECKBLAD, FINN EGIL, 1923- Røyksopp folketro og folkenavn. (Naturen, Bergen, 1956. årg. 80, nr. 7, p. 394-98, illus.) Refs. in text. Text in Norwegian. *Title tr.:* Puffballs, folk beliefs and folk names.

Twenty varieties of puffballs (Calvatia, Lycoperdon, Bavista) are known in Norway; they are widely used and have a variety of local names. Both spores and root materials are believed to have medicinal qualities, the roots being gathered as far north as Hamerøy (68°05′ N.) in Nordland. The oldest known reference to this medicinal use is from Baiern in the 16th century.

Copy seen: DGS.

44719. ECKEL, W., and N. SCHÜM-MELFEDER. Histophysikalische Untersuchungen am Nucleus Deiters bei calorischer Reizung. (Archiv für Ohren-Nasen und Kehlkopfheilkunde vereinigt mit Zeitschrift für Hals- Nasen- und Ohrenheilkunde, 1955. Bd. 167, p. 666-71, illus., table.) 6 refs. Text in German. *Title tr.:* Histophysical investigations on Deiter's nucleus following caloric stimulation.

Following cooling of the auditory meatus of guinea pigs the medulla oblongata was fixed, sectioned and specifically stained. An increase in the nucleoprotein content in the cells of the nucleus was observed.

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44720. ECKENFELDER, G. V., and others. Hamilton River survey, Labrador. (Engineering journal, Nov. 1956. v. 39, no. 11, p. 1521-30, illus., 3 text maps.) 4 refs. Other authors: W. P. Harland and E. N. Webb.

Describes the general features of a survey to determine hydro-electric potential. It was carried out for the Newfoundland government in 1954-55 by the British Newfoundland Corp. Ltd., utilizing barometric levelling and photogrammetric mapping. Marine and seismic soundings were employed extensively, hydrological studies were undertaken, and soil studies were made from 120 test pits. One hundred miles of access roads were surveyed and located.

Copy seen: DLC.

ECKHART, RICHARD ALAN, 1925—, see Moxham, R. M., and R. A. Eckhart. Marl deposits . . . Knik Arm . . . 1956. No. 46875.

EDDLEMAN, E. E., Jr., see Thomas, H. D., and others. The effects . . . hypothermia ballistocardiogram . . . dog. 1956. No. 48369.

44721. EDDY, HARRISON P., Jr. Development of designs for prefabricated arctic building; interim report to Office of the Chief of Engineers, Military Construction-Engineering Division. Boston, Metcalf & Eddy, Mar. 31, 1948. ii, 33, 13 l., photos., tables. Photostat.

Describes design of the pilot model of a prefabricated, lightweight, and re-erectable unit intended to contain most or all utilities; it will be transportable by air, and capable of erection by troops in arctic clothing. The military characteristics of the building are indicated. Pilot model procurement, trial erection of the model at Fort Churchill, equipment data, and photographs of trial erection are included.

\*Copy seen: DWB.

44722. EDERSTROM, HELGE ELLIS, 1908-, and others. Correlations between skin temperature and blood flow in the foot of the dog. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 55.) Other authors: T. Vergeer, R. Rhode, and P. Ahlness.

An analysis and discussion of data from more than a hundred animals. A series of correlations was established but these "are not applicable when extremely high or low levels of blood flow exist."

Copy seen: DLC.

44723. EDHOLM, OTTO GUSTAF, 1909— . The effects of cold on man. (Lectures on the scientific basis of medicine, 1955–56. v. 5, p. 36–52.) 42 refs.

A study of the effect of cold on circulation, specifically the direct effects on circulation, vasodilatation due to cold, cutaneous circulation, cold injuries and frostbite, hypothermia (general), cold acclimatization. Copy seen: DNLM.

**44724. EDHOLM, OTTO GUSTAF, 1909** . Physiology in the polar regions. (Nature, Nov. 3, 1956. v. 178, no. 4540, p. 954–56.)

Contains a review and discussions of the main problems brought up at the "polar physiology" session (Sept. 4, 1956) of the British Association for the Advancement of Science. Included are cold acclimatization, sleep duration and habits during the long day and night; diurnal physiological rhythms; food intake, energy expenditure and general metabolism in man and in sled dogs; physiological apparatus and methods suitable for expeditions.

Copy seen: DNLM.

EDHOLM, OTTO GUSTAF, 1909—, see also Pugh, L. G. C. E., and O. G. Edholm. The physiology of survival . . . cold water. 1956. No. 47474.

44725. EDMONDSON, WALLES THOMAS, 1916- . The relation of photosynthesis by phytoplankton to light in lakes. (Ecology, Jan. 1956. v. 37, no. 1, 161-74, illus.) 58 refs.

Contains a theoretical study based on measurements of the rate of photosynthesis in planktonic algae as function of light intensity and of its penetration into water. Observations and data obtained on Bare Lake, Kodiak Island, Alaska were utilized. Conclusions as to regional, geographic and seasonal variations in photosynthesis and ultimately in productivity are drawn in general terms. The

significance of other factors such as nutrients and temperature for productivity of both the phytoplankton and rooted plants, are also considered.

Copy seen: DLC.

44726. EDSMAN, CARL MARTIN. The story of the bear wife in nordic tradition. (Ethnos, 1956. v. 21, no. 1-2, p. 36-53.) 55 refs.

Discusses the bear myths of North America and northern Eurasia, comparing them with Scandinavian legends. An 18th century bear ceremonial is retold (p. 47-48); a relationship between the Lappish, Finnish and other circumpolar bear festivals and tales is suggested. A bear myth tradition found in certain rituals and marriage rites of Finland and Sweden is noted. Copy seen: DLC.

44727. EDSON, QUENTIN A. Preliminary report on the Alaska sablefish fishery. (In: Alaskan Science Conference . . 1953. Proceedings, pub. 1956, p. 76.)

Investigations indicate the existence of local stocks of this fish, at least in the inside waters. Fishing activities caused an initial decline of catch in all areas followed by a period of stabilization. Suggestions for size limitations are presented.

Copy seen: DGS.

44728. EDSTRÖM, EINAR. Gränslandet. Stockholm, LTs förlag, 1953. 204 p. Text in Swedish. Title tr.: Border country.

Three sketches in popular style, dealing with Finland as a borderland between East and West. The characters delineated exemplify various segments of the population, their common loyalty is stressed. The second sketch is impressions from a trip in Lapland, with numerous geographic references and discussion of the need and operation of the eastern border patrol.

Copy seen: DLC.

44729. EDWARDS, EVERETT JOSHUA, 1871–1950, and J. E. RATTRAY. Whale off. The story of American shore whaling. New York, Coward-McCann, 1956. 285 p. illus., map. First pub. 1932.

Contains in pt. 1 (p. 3-171) a biographical and character sketch of the senior author's father "Cap'n Josh" B. Edwards (1830-1915), his crew, whaling activities and methods, etc. Pt. 2 (p. 175-278) written by the junior author deals with

American shore whaling, particularly that practiced off the eastern end of Long Island from 1640 to 1918. The role of women in whaling is dealt with (p. 231–34); and a vocabulary of nautical and local terms is included.

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44730. EDWARDS, FREDERICK WALLACE, 1888–1940. Myggor: Nematocera. (In: Sjöstedt, Y. Insektfaunan inom Abisko nationalpark, III, pub. in Svenska vetenskapsakademien, Skrifter i naturskyddsärenden, 1931, nr. 18, p. 32–36.) Text in Swedish. Title tr.: Gnats: Nematocera.

Lists 60 species of gnats and crane flies collected by K. H. Forsslund in 1930, with note of locality, habitat, and date; nine families of this suborder are represented.

Copy seen: DLC.

44731. EDWARDS, LES. The colder it is the hotter they fly. (Canadian aviation, Apr. 1956. v. 29, no. 4, p. 164-65, illus.)

Contains a description of the work of the Royal Canadian Air Force Central Experimental and Proving Establishment Climatic Detachment, with headquarters north of Edmonton, Alta. The group tests Canadian and British aircraft under severe weather conditions. A typical test is described and characteristics are given of some of the new aircraft types that will probably be tested. Copy seen: DLC.

44732. EDWARDS, ROBERT LOMAS. A new *Gruimenopon*; Mallophaga-Menoponidae. (Psyche, Sept. 1949, v. 56, no. 3, p. 116-19, plate 6.)

Contains a description of G. canadensum n. sp. obtained from "skin no. 252139 collected by F. S. Hersey, St. Michael, Alaska, June 3, 1915." This genus, typically parasitic on the bird family Gruidae (cranes), has not been previously recorded from North America.

Copy seen: DA.

EFREMENKOV, I. G., see Iz istorii bor'by . . . protiv . . . interventsii . . . 1956. No. 45755.

44733. EFREMOV, G. A. Razvitie iskusstva îakutskogo naroda pod blagotvornym vliiâniem russkof kul'tury. (In: Akademiîa nauk SSSR. ÎAkutskil filial. Institut îazyka, literatury i istorii. Vedushchaîa rol' russkogo naroda . . . 1955. p. 264–73.) Text in Russian. Title tr.: The artistic development of

the Yakut people under the favorable influence of Russian culture.

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Aboriginal music and crafts are noted; introduction of Russian folk songs by 19th century political exiles is outlined, and account given of the artistic achievements under Soviet guidance: creation of the first Yakut theatrical troupe in 1925 and the national Yakut theatre in 1930; a Yakut choral group in 1936 and the musical-choreographic school in 1945; the museum of pictorial art in 1946, etc. Copy seen: DLC.

44734. EFREMOV, S. D. Rafsionalizafsifa pri snegos"emkakh. (Meteorologifa i gidrologifa, Jan. 1953, no. 1, p. 58, diagr.) Text in Russian. *Title tr.*: An improvement in snow surveys.

Methods of measuring the density of deep snow are given, and several simple devices for transporting and measuring

equipment are described.

Copy seen: DLC (microfilm.)

44735. EGDAHL, RICHARD H., and J. B. RICHARDS. Effect of extreme cold exposure on adrenocortical function in the unanesthetized dog. (American journal of physiology, May 1956. v. 185, no. 2, p. 239-42, table.) 13 refs.

Account of experiments with dogs exposed to temperatures of —46° to –50° C. and of —75 to —79° C. In both groups a marked increase in adrenal steroid output, lasting 1–3 hrs. after commencement of exposure, occurred. Administration of ACTH produced a sub-segment rise in adrenal 17-hydroxy-corticosteroid output after it returned to normal. Copy seen: DLC.

44736. EGDAHL, RICHARD H., and others. Tolerance of the dog to extreme cold exposure. (Naval Medical Research Institute. Research report, 6 May 1956. v. 14, p. 389–94, table. Project NM 007 081.22.10.) 5 refs. Other authors: D. M. Hume and J. B. Richards.

Sixteen out of 17 dogs exposed to temperatures of  $-46^\circ$  to  $-50^\circ$  and  $-76^\circ$  to  $-80^\circ$  C. for 3–27 hrs. showed no ill effects and a virtually constant rectal temperature. Two adrenalectomized dogs withstood  $-46^\circ$  to  $-50^\circ$  C. for 4.5 hrs. and one withstood  $-5^\circ$  C. for 8 hrs. without adverse effects and in a similar way as non-operated controls withstood.

Copy seen: DNLM.

EGDAHL, RICHARD H., see also Hume, D. M., and others. The effect . : .

hypothermia on pituitary . . . adrenal . . . secretion . . . dog. 1956. No. 45647.

EGDAHL, RICHARD H., see also Nelson, D. H., and others. Corticosteroid secretion . . . dog exposed to cold. 1956. No. 46978.

EGEDE, POUL HANSEN, 1708–1789, see Rosenkrantz, A. Paul Egedes forfærdelige havdyr. 1956. No. 47671.

44737. EGOROV, MIKHAIL GRIGOR'E-VICH, 1885—. Ovoshchi v Akutii. (Kolkhoznoe proizvodstvo, July 1956. god 16, no. 7, p. 47.) Text in Russian. Title tr.: Vegetables in Yakutia.

Reports the growing of tomato and cabbage by a team (brigada) of farmers in Megino-Kangalasskiy District of Yakutia; they get an annual crop of 93 cwt/hectare for the tomatoes and 253 cwt/h. of cabbage. Copy seen: DLC.

EGOROV, MIKHAIL GRIGOR'EVICH, 1885-, see also Dokhunaev, V. N. Znatnyi ovoshchevod . . . 1956. No. 44640.

EGOROV, MIKHAIL GRIGOR'EVICH, 1885– , see also Villakhov, E. IÜbilel fakutskogo ovoshehevoda. 1956. No. 48754.

EGOROV, S. F., see Polonskii, N. V. K izucheniû diatomitov. 1932. No. 47393.

44738. EGOROV, V. I., and others. Izmenenia funktsii serdeehno-sosudistoi sistemy i pochek pri gipotermii. (Eksperimental'naa khirurgia, 1956. god 1, no. 3, p. 24–33, illus. table.) 15 refs. Text in Russian. Summary in English. Other authors: Ü. N. Kashmenskii and P. V. Ponomarev. Title tr.: Changes in function of the cardiovascular and renal systems during hypothermia.

A study of 30 patients operated for pulmonary diseases while under moderate hypothermia (34°–29° C.). Conditions were also studied before and during operation and hypothermia, and at two stages after them. The following factors were recorded: clinical condition, arterial blood pressure, heart volume, general peripheral circulatory resistance and ECG; further: urine composition, glomerular filtration and tubular reabsorption, renal circulation and diuresis. Cardio-vascular and kidney changes were less pronounced at 33°–34° C. than at 32° C. and below.

44739. EGOROVA, A. A. Mikrobiologicheskoe issledovanie vozdukha, snega i l'da Karskogo morfa. (Mikrobiologifa, 1940. t. 9, vyp. 9–10, p. 888–94, tables.) 7 refs. Text in Russian. Summary in English. *Title tr.:* Microbiological study of air, snow and ice in Kara Sea.

Contains an outline of microbiological research of the arctic environment since 1864, followed by information on the methods of the present study organized by the Arctic Institute of the U. S. S. R. and conducted during 1930–1935. Air was found to be practically sterile, except when off-land winds carry soil particles. Mainland, old, snow contained more microbes than snow on the ice offshore. The younger the ice, the more germs it contained, including marine forms.

Copy seen: DLC.

44740. EHRLICH, PAUL R. Ecological observations on Erebia (Lepidoptera: Satyridae) in northwestern America. (Entomological news, Feb. 1956. v. 67, no. 2, p. 29–36.) 6 refs. "Contrib. No. 912 from Dept. of Entom. Univ. of Kansas, Lawrence."

Contains ecological notes on eight species, based on survey conducted in 1955 in northern British Columbia, southwestern Yukon Territory and eastcentral Alaska. Specifically the localities studied were along the Alaska, Steese and Taylor Highways, the Denali Highway in Mt. McKinley National Park, and the Dawson Road, running from the Taylor Highway in Alaska to Dawson, Yukon Territory. E. fasciata was the one species which appeared to be largely restricted to a true "arctic habitat." It was found in moist grassy tundra stations, above the tree line. In no case was it found in open areas within forest growth. E. rossii, popularly pictured as an arctic butterfly, was found to thrive in the taiga as well as in the tundra. Copy seen: DA.

44741. EHRLICH, PAUL R. A new subspecies of *Erebia epipsodea* Butler; Lepidoptera: Satyridae. (Entomological news, Nov. 1952. v. 63, no. 9, p. 225–31.) 9 refs.

Contains a full description of Erebia epipsodea ssp. remingtoni, n. spp., collected in the summer of 1950, by P. S. Remington along the Alaska Highway in northern British Columbia, southern Yukon Territory and Alaska (Ft. Yukon).

Copy seen: DA.

44742. EICHER, GEORGE J. Differential productivity of Bristol Bay red salmon spawning grounds. (*In:* Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 69–72.)

Contains a discussion of factors which make for persistent high yields (productivity) of certain spawning areas. Relevant conditions, and past work on ascertaining productivity are described for Bristol Bay spawning grounds. Further lines of research and improvements to increase the initial production of fry of red salmon, are suggested.

Copy seen: DGS.

44743. EICHNER-LARSEN, IB. Arktiske egne på frimærker. (Atuagagdliutit. Grønlandsposten, Mar. 22, 1956. Ukiut 96-iat, nr. 6, p. 7, 9, illus.) Text in Danish and Eskimo. Title tr.: Arctic regions on stamps.

Brief survey of Greenland, Danish, Canadian and Russian stamps with arctic motifs. Copy seen: DLC.

44744. EICHSTADT, FREDRIK, 1855-1910. Mikroskopisk undersökning af olivinstenar och serpentiner från Norrland. (Geologiska föreningen, Stockholm. Förhandlingar, 1884. bd. 7, häfte 6, no. 90, p. 333–68, plate.) Refs. in text. Text in Swedish. *Title tr.:* Microscopic investigation of olivine and serpentine rocks from Norrland.

Microscopic study and chemical analysis of rocks collected by Svenonius (q. v.) in northern Sweden clarifies some questions regarding their comparative characteristics, crystal structures, and mineral and element content. Combined field and microscopic study is believed necessary for complete clarification of their relationship to each other and to structure character. Copy seen: DGS.

44745. EIDEM, PER. En oversikt over skoggrenseundersøkelser i Norge. (Norsk geografisk tidsskrift 1955, nr. 3–4, i. e., bd. 15, 1955–56, h. 3–4, p. 159–72.) Text in Norwegian. 46 refs. *Title tr.:* A survey of forest line investigations in Norway.

Presents view of some 30 writers on problems connected with forest line research in Norway. Temperature, length of the vegetation period, soil, light, precipitation, etc., are discussed as factorial in location of the line. Results of temperature investigations, at the limit of satisfactory seed development are treated

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the (p. sacri War iden navi in detail; influence of humans and animals on the forest limit in various localities is considered. Its height above sea level varies: 150-45 m. in Finmark, 400-700 m. Troms, and higher in the interior. The forest line seems to have risen in the last 50 years. Climatic and historical factors determining the western limit of spruce in Norway are discussed.

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f temmit of reated 44746. EIDES (J. W.) FORLAG, Bergen. Svalbard, en del av Norge. Bergen 1950. 172 p. (chiefly illus.), 2 maps, maps on lining papers. Title tr.: Svalbard, a part of Norway.

Norwegian text; English translation was listed as No. 21619. Reviewed by Knut Faegri in Naturen, 1950, p. 280. Copy seen: DLC.

44747. EINARSSON, HERMANN. Rannsóknir á átu, hitastigi og dreifingu síldar, gerðar á rannsóknaskipinu "Aegi" [sic] summarid 1955. Observations on plankton, temperature and the distribution of herring, made from the research vessel "Aegir" during the summer of 1955. Reykjavík, 1956. 29 p. 33 text charts, diagrs., graphs. (Reykjavík. Háskóli Islands. Atvinnudeild. Fiskideild. Fjölrit fiskideildar, nr. 7.) 4 refs. Text in Icelandic. Summary in English.

Preliminary report on author's investigations in Denmark Strait and Greenland Sea northeast to Jan Mayen: temperature conditions of uppermost 140 m., zooplankton volume and components, and distribution of herring shoals. Herring samples were collected. Weather conditions, depth to bottom, speed of vessel and surface temperature were noted. The echo-traces on the ship's echo-sounding equipment showed certain peculiarities. Hydrographic conditions are described by U. Stefánsson, q. v.

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44748. EINERSTAM, BERNT. Notes on phallic figures and stones in Scandinavia. (Ethnos, 1956. v. 21, no. 1–2, p. 85–94, illus.) Approx. 30 refs.

Describes finds in several localities and links the phallic statuary with the cult of the Norse fertility god, Frey. Includes (p. 91–92) 17th century Lapp reindeer sacrifices connected with fertility rites of Waralden Olmai, a Lapp god considered identical with Frey, thus showing Scandinavian influence on Lapp culture.

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44749. EISEMAN, B., and others. Prolonged hypothermia in experimental pneumecoccal peritonitis. (Journal of clinical investigation, Sept. 1956. v. 35, no. 9, p. 940–46, illus., tables.) 18 refs. Other authors: W. G. Malette, R. S. Wotkyns, W. B. Summers and J. L. Tong.

A description of the effect of hypothermia (19° C.) on mice with type III pneumococcal peritonitis. A longer survival was observed in the hypothermic animals; this was greater than can be accounted for by inhibition of bacterial growth during the period of hypothermia. An explanation of this condition is suggested.

\*\*Copy seen: DNLM.\*\*

4475e. EISENTRAUT, MARTIN. Der Winterschlaf mit seinen ökolologischen und physiologischen Begleiterscheinungen. Jena, Gustav Fischer, 1956. 160 p. illus., tables. About 400 refs. Text in German. *Title tr.:* Hibernation and associated ecological and physiological phenomena.

A comprehensive study and review of the problem, with sections on body temperature in hibernators, "estivation" among animals, hibernation and sleep, hypothermia, cold-rigor, etc. rence of hibernation among the various mammalian groups is discussed, and outline is given of physiological changes during it: respiration, pulse, circulation, nerve function; also of chemical and physiological changes in metabolism. The mechanism of hibernation is considered: external factors such as light, seclusion, temperature, food and internal factors (fat reserves, hormonal regime, nervous activity, etc.). The biology is dealt with: preparations, fitting the sleeping quarters, storing food, etc. Condition and stages of hibernation, and the awakening are discussed. A brief account of hibernation among birds is added. Copy seen: DLC.

EKBLAW, WALTER ELMER, 1882–1949, see Explorers Club. Told . . Explorers Club . . . tales . . . 1931. No. 44832.

EKBLAW, WALTER ELMER, 1882–1949, see also Sanders, I. T. Societies around the world. 1956. No. 47782.

44751. EKBLOM, TORE. Hemipteren aus dem Sarekgebiet. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 4, Zoologie,

Lfg. 10, pub. 1931, p. 939-48, illus., text map.) 10 refs. Text in German. *Title* tr.: Hemiptera from the Sarek region.

Contains a systematic list of 27 species of Hemiptera heteroptera and 14 of Hemiptera homoptera, followed by notes on their biology and ecology; data on distribution of 14 northern species in Scandinavia and the U. S. S. R. are added.

Copy seen: MH-Z.

44752. EKLUND, CARL MILTON, 1905—, and C. L. LARSON. Outbreak of type 3 poliomyelitis on St. Paul Island, Alaska. (American journal of hygiene, Mar. 1956. v. 63, no. 2, p. 115–26, tables.) 12 refs.

Account of an explosive outbreak of bulbar and meningeal forms of polio, which took place in the first half of January 1954. Illness affected mostly children and was probably transmitted by person-to-person contact. Results of laboratory studies are also presented.

Copy seen: DNLM.

44753. EKLUND, CARL ROBERT, 1909 . Bird and mammal notes from the interior Ungava Peninsula. (Canadian field-naturalist, Apr.-June 1956. v. 70, no. 2, p. 69-76, text map.) 14 refs.

Contains an annotated list of 28 birds (mostly waterfowl species) and eight mammals, including the caribou, Rangifer arcticus, weasel, Musteta erminea, otter, Lutra canadensis, some lemmings and mice. Seven collecting stations (lakes and rivers) between Hudson Bay and Ungava Bay are described. The field work was carried out June 29-Aug. 3, 1949, and was sponsored by the Arctic Institute of North America.

Copy seen: DA.

EKMAN, GUSTAF, 1852–1930, see Cleve, P. T., and others. Les variations . . . surface . . . Atlantique. 1901. No. 44391.

44754. EKMAN, SVEN PETRUS, 1876-

. Fjällens djurlif och växtlif. (Svenska turistföreningen, Stockholm. Årsskrift, 1901, p. 173–96.) Text in Swedish. *Title* tr.: Animal and plant life of the moun-

Ecological account of the flora and fauna of northern Swedish mountain regions from those of the birch forest and bogland to the glacial limits. Plant associations are related to terrain; birds, animals, and insects to habitats whose plant associations are identified; and fresh-water fauna to silty strands. Brief

description and scientific as well as popular name are given for most of the (over a hundred) forms discussed.

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44755. EKMAN, SVEN PETRUS, 1876— . Ostracoden aus den nordschwedischen Hoehgebirgen. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907—1939. Bd. 4, Zoologie, Lfg. 2, pub. 1908, p. 169—98, 7 illus.) 9 refs. Text in German. Title tr.: Ostracoda from the high mountains of northern Sweden.

Contains a systematic annotated list of 12 fresh-water ostracods, of which four, Candona pygmaea, C. lapponica, C. laciniala and C. longipes, are described as new. Data are added on habitat and ecology of these species, and total distribution is given for each. Supplemented by No. 43596.

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EKMAN, SVEN PETRUS, 44756. Über die Artselbständigkeit 1876-Lemmus lemmus (Linné) gegenüber Lemmus obensis (Brants). (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907-1939. Bd. 4, Zoologie, Lfg. 2, pub. 1908. p. 125-32, illus.) Text in German. Title tr.: On the specific differences between Lemmus lemmus (Linné) and Lemmus obensis (Brants).

Taxonomic characteristics of these two lemmings are studied, with conclusion that both species are valid. Based chiefly on specimens from the Sarek Mountains and northern U. S. S. R. (Kola Peninsula, western Siberia). *Copy seen:* MH-Z.

44757. EKMAN, SVEN PETRUS, 1876—. Die Wirbeltiere der arktischen und subarktischen Hochgebirgszone im nördlichsten Schweden. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 4, Zoologie, Lfg. 1, pub. 1907. p. 1–24, 17 illus, map.) 81 refs. Text in German. Titte tr.: Vertebrates of the arctic and subarctic high mountain zone in northern Sweden.

The alpine zone of Torne and Lule Lappmark and subdivisions are characterized, and a systematic annotated list is given of 17 mammals (mostly small), 75 birds, three reptiles, one amphibian (Rana temporaria) and nine fishes. The

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mass migrations of mountain lemmings are noted and discussed (p. 9-24). Vertical distribution and migration of vertebrates in the Arctic and sub-Arctic are shown (p. 75-82). The high mountain region is considered in zoogeographic subdivisions of birch, meadow and lichen zones, the fauna of each is discussed, and comparison is made with that of Norway Dovre Mountains). The origin and development of high mountain fauna in glacial and post-glacial time is dealt with, and migration of its elements is traced. Copy seen: MH-Z.

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14758. EKSTRÖM, CARL ULRIK, 1781-1859. Bidrag till fiskets historia i Skandinavien särdeles vid Sveriges vestra (Göteborgs kungl. vetenskaps- och vitterhets-samhälle. Handlingar, 1850. ny tidsföljd, häft. 1, p. 1-16.) & Text in Title tr.: Contribution to the history of Scandinavian fishery, especially along Sweden's west coast.

General discussion of the development of commercial fishing, its regulation, and the concept of conservation. Includes references to gear used in northern Scandinavia, Greenland, and North America, in prehistoric times, and still in use, also to commercial fishing rights in Finnmark, northern Norway, in 1305.

Copy seen: DLC.

ELBERTY, WILLIAM T., see Stoiber, R. E., and others. The source area and age of ice-island T-3. 1956. No. 48213.

ELCHIN, IAKOV ALEKSEEVICH, see Sgibnev, A. Bol'sho' Kamchatskii namad . . . El'china. 1868. No. 47912.

44759. ELDORADO MINING AND REFINING LTD. The Eldorado enter-(Canadian Institute of Mining Metallurgy. Transactions, v. 49, p. 423–38.) 2 refs.

A three-part paper. The discovery, exploration, and development of the Eldorado uranium property on Great Bear Lake are described by members of the Company staff. Lithology and structure of the mine area, mineralogy of the pitchblende deposits, alteration of rocks and veins in the mine area, factors controlling ore deposition, and source of the ore solutions are dealt with by R. Murphy. Gravity milling operations from their start in 1933 to 1946 are described by H. M. Howard. Copy seen: DGS.

44760. ELDRIDGE, ARTHUR C. A numerical method of forecasting summer precipitation in the area of Elmendorf Air Force Base. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 117-19.)

A number of objective meteorological variables are combined by graphical correlation techniques, and the results are presented in terms of the probability of rainfall accurring in each of several "amount" categories. The method was first tested in the summer of 1951, using data for the summers of 1949 and 1950, and later extended to the summer of 1952, using the previous three years' data. The purely persistence forecast was 75 percent correct. Copy seen: DGS.

ELFVING, G., see Hustich, I., and G. Elfving. Die Radialzuwachsvariationen der Waldgrenzekiefer. 1944. No. 45660.

ELIOT, JOHAN WIJNBLADH, 1921see Stein, H. J. and others. Physiological reactions to cold . . . acclimatization to heat. 1948. No. 48190.

44761. ELKHIN, A. N. Soprotivlenie udarnomu (poperechnomu) izgibu zamorozhennol drevesiny. (Gidrotekhnicheskoe stroitel'stvo, Nov. 1956. god 25, no. 10, p. 54-56, table, graphs.) 4 refs. Text in Russian. Title tr.: Resistance to impact (transversal) bending of frozen wood cellulose.

Pine wood samples, saturated in water and dried to different degree of moisture (18, 30, 60, and 100 percent) were frozen for ten days at temperatures: -10° -25° and -40° C. before the impact bending tests. The test data are tabulated and graphically represented in two and three dimensional relations: impact load—temperature—moisture.

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EL'KIND, L. B., see Rakovskii, V. E., and Torfianol degot' . . . 1953. No. others. 47507.

ELLEFSEN, ELLEF, and K. B. 44762. SOLLESNES. Kartbok over Norge; målestokk 1:1 mill. Oslo, J. W. Cappelen, 1954. vii, 31 p., col. maps. Text in Title tr.: Atlas of Nor-Norwegian. way; scale 1:1 million.

Contains nine sectional maps, six representing regions north of the Arctic Circle; main topographic features are represented, and a place name index is appended. Population of cities and administrative districts, hotels, highway

mileage, the main rivers, lakes, fjords, glaciers, etc., are listed.

Copy seen: DLC.

44763. ELLING, CARL H., 1917—. Some observations on the Icy Strait tagging of 1950. (*In*: Alaskan Science Conference . . . 1953. Proceedings, *pub*. 1956, p. 74.)

Account of investigation designed to determine the racial composition and times of local catch. This was achieved by continuous tagging for almost three weeks prior to opening of the fishing season and by extensive recovery.

Copy seen: DGS.

44764. ELLIOTT, FRANCIS EDWARD, 1909— . Some factors affecting the extent of ice in the Barents Sea area. (Arctic, 1956. v. 9, no. 4, p. 249-57, text map, graph, 2 tables.) 17 refs.

Variations in flow of the Gulf Stream system and in transport of warm Atlantic water across the Wyville-Thomson Ridge northeastwards (via the North Cape Current) affect the areal extent of ice in the Barents Sea. Theoretical considerations and data are presented relating variations in the Florida Current (southern Gulf Stream system), as indicated by mean sea level changes at Charleston, S. C., and Miami, Fla., to ice conditions in the Barents Sea three years later. Low sea level at Charleston and Miami means strong flow of the Florida Current. contraction of the North Atlantic eddy, little warm Atlantic surface water discharged into the Barents Sea and thus more ice. Conversely, high sea level at Charleston and Miami results in more Atlantic water in Barents Sea and less ice. Relationship of ice to winds in Barents Sea area is also briefly discussed. In the period 1925-1938, good agreement between sea level, ice, and wind curves occurs in 12 of the 14 years.

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44765. ELLIOTT, GRAHAM F. On Tertiary transarctic brachiopod migration. (Annals and magazine of natural history, Apr. 1956. series 12, v. 9, no. 100, p. 280-86, text map.) 23 refs.

Recent and fossil distribution of six brachiopod genera in the Arctic Basin, North Atlantic and North Pacific is discussed. Hemithyris psittacea (Gmelin) migrated from Pacific to Atlantic through the Canadian Arctic in the Pleistocene, and Glaciarcula gen. nov., from the Atlantic to Pacific by the same route in the Pleistocene or later. Both are coldwater forms. Dallina, Japanithyris and Macandrevia probably migrated from Pacific to Atlantic in early Pliocene, via the Arctic or Central America. Tegulorhynchia is not a transarctic brachiopod. Appended is a systematic description of Glaciarcula, gen. nov.

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44766. ELLIOTT, RAY A., Jr., and R. L. DRYER. Hypervitaminosis A; report of a case in an adult. (American Medical Association. Journal, July 1956. v. 161, no. 12, p. 1157–59.) 3 refs.

Description of a case in a woman of 21, being the fifth case reported in an adult. The patient had ingested daily 160,000-180,000 unit of vitamin A for over seven months in a program of self-medication. Symptoms and signs of the disease disappeared promptly after discontinuation of the vitamin. Copy seen: DNLM.

44767. ELLIS, D. V. Observations on the migration, distribution and breeding of birds in the Canadian Arctic during 1954 and 1955. (Dansk ornithologisk forening. Tidsskrift, Oct. 1956. Årg. 50, hefte 3, p. 207-229, 4 illus., text map.) 13 refs. Summary in Danish.

Contains observations made from May 1954 to Aug. 1955 between Coppermine and Pond Inlet. An annotated list of 60 species, giving the date, number of birds and direction of flight is provided; the observations are summarized to indicate the dates of arrival of the birds, their breeding periods, and their departure (tables 1–3). Distribution of birds observed in 1954 and 1955 (cf. text map) is also tabulated. Copy seen: DA.

44768. ELLIS, D. V. Some observations on the shore fauna of Baffin Island. (Arctic, 1955, pub. 1956. v. 8, no. 4, p. 224–36, 5 illus., 3 text maps, 3 tables.) 21 refs.

A study of shore animals made in the summer 1953, covering Frobisher Bay, Cumberland Sound and Padloping Island. Thirty species of invertebrates and four of fishes are recorded from the area; their habitat and distribution are described and compared with those in Greenland. A detailed itinerary and review of earlier work precede the account.

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44769. ELLIS, FRANK H. Canada's flying heritage: the saga of BMI. (Cana-

dian aviation, Jan. 1956. v. 29, no. 1,

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ada's 'anaConlains an account of a twin-engined aircraft purchased and placed in operation by the Hudson's Bay Co. in 1939 to serve posts in Labrador and the Yukon. Tremendous mileage was logged before the plane sank in a gale in 1941 while anchored near shore. Flight logs of the aircraft are mapped.

Copy seen: DLC.

ELMLUND, ARNE, see Björkhem, K. E., and A. Elmlund. Skogsbilvägar . . . 1956. No. 44033.

44770. ELON-SERENI, DEBORAH. Gibore ha-kotev; parashat ha-gvurah vehahak-ravah shel kibush ha-kotev hafsoni ve-hadromi. Tel-Aviv, Yavneh Publ., 1955. 144 p. illus. Text in Hebrew. Title tr.: Heroes of the Pole; the story of heroism and self-sacrifice in the conquest of the North and South Pole.

A popular account from the times of the Viking voyages to Greenland, to the present. The three consecutive sections deal with: (1) journeys to and across Greenland, its exploration and the main figures in that epic: Egede, Nansen, Peary, Charcot and others. (2) Expeditions to the North Pole: Barendsz, Hudson, Munck; the Northeast Passage and the Franklin expeditions; the Northeast Passage; aviation in arctic exploration; Nobile, Papanin and others. Part 3 deals with the Antarctic.

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44771. ELOVSKAÂ, L. G. Khimicheskii sostav nekotorykh kormovykh rastenii tsentral'noi lakutii v sviāzi s pochvennymi uslovitāmi. (Akademifa nauk SSSR. lākutskii filial, Yakutsk. Institut biologii. Trudy, 1955. vyp. 1, p. 5–27, illus., tables.) 19 refs. Text in Russian. Title tr.: Chemical composition of some food plants of central Yakutia in connection with soil conditions.

Field samples of soils and plants were collected from the same plots in 1951 and 1952. Study was made of changes in chemical composition of feed grasses depending upon soil conditions, also of the chemical composition of various wild food-plants (field peas, wild barley, etc.) growing under identical soil conditions, and of single species raised on various soils. Traits of main groups of pasture

flora as determined by soil conditions are also studied and discussed.

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44772. ELPAT'EVSKIĬ, SERGEĬ ÎAKOVLEVICH, 1854-1933. Razskazy i ocherki. S.-Peterburg, Izd. L. F. Pantelĉeva, 1899. 324 p. Text in Russian. *Title tr.*: Stories and sketches.

Includes a chapter (p. 152-61) entitled: In the Turukhansk region (V Turukhanskom krafe), recounting the author's (a physician) winter trip to an otherwise unidentified Russian village in the taiga. He traveled by horse sledge (narta) along the Yenisey River and in the taiga, found a measles epidemic which had affected all the inhabitants of the village; describes a Tungus, who brought his sick wife for medical examination, etc.

Copy seen: DLC.

44773. ELSNER, ROBERT WELLING-TON, 1920— . Some acclimatizing responses of man to prolonged cold exposure. Ladd Air Force Base, Alaska. Nov. 1955. 38 p. illus. tables (U. S. Air Force, Arctic Aeromedical Laboratory, Project no. 8-7951, report no. 1.) 68 refs.

Report of investigation of four subjects who lived during 3½ weeks in a winter bivouac near Fairbanks, Alaska. Plasma volume, body fat, state of physical fitness, body temperatures, oxygen consumption, etc., and finger cooling tolerance, were recorded. The responses observed suggest an increased protection against cold injury to the extremities and increased heat production through muscular activity, the latter requiring a high level of physical fitness. Copy seen: DNLM.

44774. ELTYSHEVA, R. S. Klass Crinoidea—morskie lilii. (*In:* Leningrad. Vsesofūznyĭ geologicheskiĭ institut. Polevoĭ atlas ordovikskoĭ i siluriiskoĭ fauny Sibirskoĭ platformy, 1955, p. 40–47, illus.) Text in Russian. *Title tr.:* Class Crinoidea—sea lilies.

Contains a description of the morphology of the stem of these forms and their value as geological indicators. Thirteen species of these animals are described, eleven of them new, with notes on occurrence, geographic distribution, etc.

Copy seen: DLC.

44775. ELVEY, CHRISTIAN THOMAS, 1899- . Visual observations of the aurora in Alaska, 1953–1954. (*In:* Anderson, S., and R. S. Leonard, Auroral zone absorption of radio waves transmitted via the ionosphere, 1955, Appendix A: 301. incl. illus., diagrs. graphs,

map.) 3 refs.

Observations were made at five stations: College, Northway, Sheep Mountain, Nome, and Point Barrow. Observation techniques and methods of recording employed are described in detail. A definite increase of auroral activity with magnetic activity was found. Maximum activity was observed around local midnight and such activity appeared to be a function of geomagnetic latitude. Frequency of auroras and auroral forms are graphed.

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44776. EMEL'ÎANOV, N. S. Pomoshch' russkogo proletariata trudîashchimsîa ÎAkutii v bor'be za ustanovlenie i uprochnenie sovetskof vlasti. (In: Akademiña nauk SSSR. ĪAkutskif filial. Institut fazyka, literatury i istorii. Vedushchafa rol' russkogo naroda . . . 1955. p. 107–120.) 8 refs. Text in Russian. Title tr.: The Russian proletariat's aid to the toilers of Yakutia in the fight for establishment and consolidation of Soviet power.

Describes the part played by Russian bolsheviks during the 1917 revolution, the foreign intervention, and the 1921-23 counter-revolution in Yakutia, and the creation of Yakut A. S. S. R. in 1922.

Copy seen: DLC.

EMERSON, GEORGE L., see Mavor, G. E., and others. Potassium effects in hypothermia . . . 1956. No. 46664.

EMERSON, GEORGE L., see also Mavor, G. E., and others. Procaine amide in hypothermia . . . 1956. No. 46665.

44777. EMERSON, WILLIAM CAN-FIELD, 1893—. The Land of the Midnight Sun; the story in words and pictures of the Alaska Highway, Alaska, the Alaska Indians, and the Alaska Eskimos. Philadelphia, Dorrance, 1956. 179 p. illus.

Popular account, with author's photographs from his trip to Alaska in 1954, of the Alaska Highway and its construction, history of Alaska, the Territory

today, its native peoples.

Copy seen: DLC.

44778. EMERTON, JAMES HENRY, 1847–1930. Catalogue of the spiders of Canada known to the year 1919. (Royal

Canadian Institute. Transactions, Mar. 1920. v. 12, pt. 2, no. 28, p. 309-338.)

Contains a systematic list of 342 species with distributional data, at least 25 native to northern Canada or expanding to Alaska.

Copy seen: DLC.

44779. EMERTON, JAMES HENRY, 1847-1930. Recent collections of spiders in Newfoundland and Labrador. Aran. (Entomological news, Mar. 1914. v. 25, no. 3, p. 117-18.)

Contains notes on a few small collections of spiders and tabulated data on their distribution. Seventeen species are recorded at Natashquan River, Battle Harbour, Hopedale and a few other localities in Labrador.

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44780. EMSLIE-SMITH, DONALD. Changes in the electrocardiogram during preoperative hypothermia in man. (Australasian annals of medicine, Feb. 1956, v. 5, no. 1, p. 62–67, illus., table.) 12 refs.

An account of observations on five patients during preoperative hypothermia. Heart rate, PR and QTc, T and ST are analyzed and discussed. It is concluded that during production of hypothermia the repolarization process in the heart is altered.

Copy seen: DNLM.

44781. ENEQUIST, GERD. Lulebygdens livsmedelsförsörjning. Uppsala, Appelberg, 1939. 48 p. diagrs., tables. (Geographica, no. 7.) Text in Swedish. Summary in German. Title tr.: The Luleå commune's food supply.

Study of the production, transportation, consumption, etc., of selected food staples in the area northwest of the head of Gulf of Bothnia. Supply of fish, meat and berries from the arctic district is dealt with; and graphical representation is included of food commodities sent monthly (1936) from Luleå and Boden to selected stations in arctic Sweden. The large proportion of non-food-producing workers in northern Norrbotten is noted.

\*\*Copy seen: DGS.\*\*

44782. ENEROTH, OLOF. Undersökning rörande möjligheterna att i fossilt material urskilja de olika Betularternas pollen. (Geologiska föreningen, Stockholm. Förhandlingar, 1951. bd. 73, häfte 3, no. 466, p. 343–405, 9 diagrs., text map, 2 plates, 27 tables.) 31 refs. Text in Swedish. Summary in English. Title tr.: Investigation of the possibility

of differentiating the pollen of different species of Betula in fossil material.

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Some difficulties in interpreting results of pollen analyses in upper Norrland are due to the fact that there are fewer climate-connoting forest elements. This handicap was met by devising a means to distinguish between the pollen of different species of birch. Examinations of fossil materials from Kiruna, Masugnsbyn, at Junosuando, and Kuouka, all above the Arctic Circle, are illustrated and discussed. Methods of procedure are discussed in great detail. Copy seen: DGS.

**ÈNGEL', P. S.**, see Veselkin, N. V., and others. O vliîanii sveta . . . 1934. No. 48729.

44783. ENGELHARDT, GEORGE PAUL, 1871–1942. The North American clear-wing moths of the family Aegeriidae. Washington, D. C., 1946. vi, 222 p., 32 plates. (U. S. National Museum. Bulletin 190.) A posthumous publication, prepared by A. Busck, with a foreword by C. Heinrich.

The family is defined and classification given. A systematic list of about 160 species is presented with full keys, synonyms, descriptions, also data on habitats, food plants and distribution. Seven genera and about 35 species, varieties, races and forms are described as new. At least seven species are native to Alaska and northern Canada.

Copy seen: DLC.

44784. ENGELS, WILLIAM LOUIS, 1905—, and C. E. JENNER. The effect of temperature on testicular recrudescence in juncos at different photoperiods. (Biological bulletin, Apr. 1956. v. 110, no. 2, p. 129–37, tables.) 13 refs.

Contains a study on the effects of temperature and day-length at near natural levels and at the time of normal recrudescence. Low temperature was found to retard recrudescence, higher temperatures accelerate it. Day-length is "in some way" part of the recrudescence mechanism, "being either permissive or prohibitive of sperm development above or below approximately 11 hours, temperature having here only a modifying role." The existence of a critical, minimum length of day was not conclusively demonstrated nor disproved.

Copy seen: DLC.

**44785.** *ENGINEER*. Ice locomotives. (Engineer, Jan. 27, 1956. v. 201, no. 5218, p. 130–31, illus.)

Contains description and illustration of locomotives designed in 1861 in England and sent to Moscow for use on frozen rivers and lakes.

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44786. ENGINEERING JOURNAL.
The energy resources of Canada. (Engineering journal, Dec. 1956. v. 39, no. 12, p. 1678–84, 1696, chart, tables.)

Progress in the development of the energy resources is discussed. Sources of energy in Canada are charted for the period 1927–1955, showing the relative contribution of imported and domestic petroleum, natural gas, water power, and imported and domestic coal. Imported coal provided the largest single energy source through most of this period but has now been replaced by domestic petroleum. Future energy requirements and possible sources are discussed.

Copy seen: DLC.

DIE ENTDECKUNG UND ERFOR-SCHUNG DER ERDE, see Krämer, W. Die Entdeckung . . . 1953. No. 46110.

44787. EPSTEIN, STEPHAN. Urticarial hypersensitivity to light. (American practitioner and digest of treatment, Aug. 1956. v. 7, no. 8, p. 1326–31, illus.) 22 refs.

Contains a study of solar urticaria (urticaria photogenica) with information on onset, clinical aspects, course and prognosis; experimental studies and their results; photo allergy; allergic nature of solar urticaria; therapy.

Copy seen: DNLM.

44788. ERÄMETSÄ, OLAVI. Zinkgehalte finnischer Minerale mit nichtmetallischem Charakter. Helsinki, 1945. 12 p. (Suomalainen tiedeakatemia. Toimituksia. Sarja A-II, chemica, 14.) 6 refs. Text in German. *Title tr.:* Zinccontaining minerals of a non-metallic character in Finland.

Spectrographic analysis of minerals from many localities in Finland, including some in the Arctic, reveals zinc content in non-metallic minerals. Occurrence, mineral content, and mineralogic problems are considered. Copy seen: DGS.

44789. EREMEEVA, K. M. Sezonnye izmenenifa kozhnogo i volosfanogo pokrovov golubykh pesfsov. (Karakulevodstvo i zverovodstvo, Jan.-Feb. 1956. god 9, no. 1, p. 38–40, illus., tables.) Text in Russian. Title tr.: Seasonal changes of the skin and hair-cover of blue foxes.

Biopsy samples of skin and hair samples

were studied monthly in ten animals. It was found that they moult twice a year, in spring and fall. The summer hair-cover is fully developed in August; that of the winter, in December. Changes in the skin were closely related to changes in the hair-cover. Copy seen: DLC.

**44790. ERIKSON, HARALD.** The body temperature of arctic ground squirrels (*Citellus parryi*) at varying environmental temperature. (Acta physiologica scandinavica, 1956. v. 36, fasc.

1-2, p. 75-78, illus.) 2 refs.

Unrestrained animals showed a body temperature of 36.5° to 39° C. at environmental temperature range of +30° to -30° C. At +38° C., a marked increase of body temperature (to about 41° C.) took place; restraint lowered the tolerance to cold, but only slightly to heat.

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44791. ERIKSON, HARALD, and others. The critical temperature in naked man. (Acta physiologica scandinavica, 1956. v. 37, fasc. 1, p. 35–39, illus.) 13 refs. Other authors: J. Krog, K. L. Andersen, and P. F. Scholander.

Account of experiments on a bicycle ergometer in a cold room, with the subjects doing just enough work to avoid becoming cold. Critical temperature was found to be about 26° C.; below this point heat production increased approximately in proportion to the body-to-air temperature gradient, in conformity with Newton's law of cooling.

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44792. ERIKSON, HARALD. Observations of the body temperature of arctic ground squirrels (Citellus parryi) during hibernation. (Acta physiologica scandinavica, 1956. v. 36, fasc. 1-2, p. 79-81, illus.) 2 refs.

In animals kept at around  $0^{\circ}$  C., body temperature was only slightly higher than that of environment. Drop of ambient temperature to  $-10^{\circ}$  C., noise, or even moderate handling caused rise in body

temperature and waking up.

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44793. ERIKSON, HARALD. Observations on the metabolism of arctic ground squirrels (Citellus parryi) at different environmental temperatures. (Acta physiologica scandinavica, 1956. v. 36, fasc. 1-2, p. 66-74, illus., tables.) 3 refs.

The metabolic rate of these animals was "found to be of the same magnitude as common in mammals." During sleep at night there was a reduction of about 50 percent of daytime values. Temperatures from  $-30^{\circ}$  to  $+40^{\circ}$  C. were well tolerated;  $+50^{\circ}$  C. caused death after one hour. Metabolic rate and activity increased below  $+10^{\circ}$  C. Metabolism, following feeding at various ambient temperatures and seasons, is also discussed. This and two of the studies above were made at the Arctic Research Laboratory, Point Barrow, Alaska, under contract with the U. S. Office of Naval Research.

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44794. ERIKSSON, J. V. Isläggning och islossning i Sveriges insjöar. Uppsala, Almquist & Wiksell, 1920. 2 p. 1., 95 p. diagrs., maps, tables. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, bd. 1, no. 2.) 44 refs. Text in Swedish. Summary in French. Title tr.: Ice cover and break-up in Sweden's inland lakes.

Study based on observations (15138) of 1864 lakes in Sweden during 1870-The effect of meteorological, hydrological and geographic-topographical factors upon the formation, duration and break-up of ice is traced. An isochronal map based on the mean annual freezing time shows that freezing begins in the inland area of Lapland 90 days, in central Sweden 40 days, and in the southern part 20 days before Jan. 1. Ice thickness varies greatly from year to year depending on the temperature, length of winter, and amount of precipitation. Break-up time ranges from 80 days after Jan. 1 in the south to 160 days on the northwest coast. Isochronal maps showing the mean freezing and break-up amplitudes throughout the country are presented. Climatic periodicities of 2, 4-5, 8, 11 and 25 years are evident from this study. Copy seen: DWB.

44795. ERIKSSON, J. V. Den kemiska denudationen i Sverige. Stockholm, 1929. 96 p. illus., maps, tables. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, bd. 5, no. 3.) 69 refs. Text in Swedish. Summary in French. Title tr.: Chemical denudation in Sweden.

Contains data from an extensive study conducted during 1909–1925 on dissolved material and that carried in suspension in Swedish rivers. Special equipment for making these measurements at the surface and at various depths, and methods of the chemical analyses are described

briefly. The analyses are tabulated for each station (including several on the Torne, Kalix, Lule and Pite Rivers in the far North), and summarized. Measurements included inorganic material, amount of calcium oxide or magnesium oxide, degree of water hardness, alkalinity, pH concentration; free and semicombined carbonic acid, organic material, periodicity in the appearance of dissolved materials, and absolute quantities of dissolved materials. The geographical significance of chemical denudation is discussed.

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ERKAMO, 44796. VILHO. Untersuchungen über die pflanzenbiologischen und einige andere Folgeerscheinungen der neuzeitlichen Klimaschwankung in Finnland. Helsinki, 1956. xii, 290 p. 55 illus. (incl. 43 text maps) 29 tables. (Suomalainen eläin- ja kasvitieteellinen seura Vanamo, Kasvitieteellisiä julkaisuja, 1956. v. 28, no. 3) ca. 800 refs. in German. Summary in English and Finnish. Title tr.: Investigations of plant-biological and some other consequences of the recent climatic fluctuation in Finland.

Contains a survey of recent, icosaeonic (=20th century) climatic fluctuations, as evidenced in the milder winters, hence in the ice conditions, summer temperatures, etc. in Finland. The effects on the flora are also surveyed: such as the unusually vigorous growth of annual rings and height of trees and the increased proportion of herbs of southern origin. A study of phenological phenomena, generative reproduction of plants and their distribution and frequency show that they have been greatly influenced by recent climatic changes. The flowering of spring plants has become earlier and tree leaves yellow later. The northern species have moved northward but show little tendency to spread in their southern limits. Cultivated plants, such as trees and shrubs, cereals, fodder plants, etc., are also spreading northward. This and the increased growth of forest trees implies a considerable increase in the national wealth of Finland. emphasizes, however, that the peak of icosaeonic climatic fluctuation may have passed, and recommends caution in extending farming settlement in Lapland. Copy seen: DLC.

44797. ERMAKOV, A. V. Rulony iz derna. (Priroda, Aug. 1956, no. 8, p. 113-

14, 2 illus.) Ref. Text in Russian. Title tr.: Sod rolls.

"This form of sod deformation associated with suprapermafrost water was observed in the Chukotsk Peninsula on slopes where solifluction occurred. The rolls were formed from sod 30-40 cm. thick and were probably associated with vertical moisture gradients that exerted differential lateral pressures during freezing,"—SIPRE. Copy seen: DLC.

44798. ERMAKOV, DMITRIĬ, and N. ERMAKOV. Za nas ne pridetsiā krasnet'. (Molodoĭ kolkhoznik, Dec. 1956. god 23, no. 12, p. 2.) Text in Russian. Title tr.: One will not blush with shame for us.

Letter written by volunteer workers at Noril'sk; describing the digging by hand of a foundation trench 15 m. deep in the frozen ground. **Copy seen:** DLC.

ERMAKOV, NIKOLAĬ, see Ermakov, D., and N. Ermakov. Za nas ne pridetsia krasnet'. 1956. No. 44798.

ERMILOVA, N. V., see Polutov, I. A., and others. Tralovyi promysel . . . 1956. No. 47395.

44799. ERMISCH, KARL. Anaspis-Studien I. Die Gruppe der Anaspis (s. str.) bohemica Schilsky; 29. Beitrag zur Kenntnis der Mordelliden. (Entomologische Blätter, 1955. Bd. 51, Heft 1-2, p. 3-8, 3 illus., text map.) Text in German. Title tr.: Anaspis studies I. The group Anaspis (s. str.) bohemica Schilsky; 29th contribution to the knowledge of Mordellidae.

Contains a discussion of this group of beetles and its distribution, and a table for the determination of the species. A. bohemica occurs in northern Fennoscandia.

Copy seen: DA.

44800. ERMOLIN, G. N. K metodike khimicheskogo analiza molibdenitovykh rud. (*In*: Khibinskie apatity, 1933. t. 6, p. 156–57.) Text in Russian. *Title tr.:* Chemical methods of analysis of molybde-

nite ores.

Four different methods are described: the barium chloride, calorimetric, sulfide methods and three variants of the lead acetate method.

Copy seen: DGS.

EROKHIN, BORIS IVANOVICH, 1891–1933, see Anisimov, V. B. I. Erokhin; . . . 1934. No. 43678.

44801. ERVITS, M. Ustranenie povrezhdeniĭ korpusa sudna zhelezobetonom. (Morskof flot, Feb. 1946. god 6, no. 2, p. 32–36, 7 illus.) Text in Russian. Title tr.: Repair of hull damages by reinforced concrete.

A method of repairing damaged bow and bottom of ships is described, the arrangement of reinforcing steel rods, passing through frames and beams is explained and diagrammed. The reinforced system was enclosed with thin wooden boards and the space between filled with concrete. The work was carried out at air temperature of  $-6^{\circ}$  to  $-11^{\circ}$  C.

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44802. ERVITS, M. Zadelka proboiny s pomoshch'iù zhelezobetona. (Morskol flot, Mar. 1946. god 6, no. 3, p. 16-19, Text in Russian. Title tr.: illus.) Repair of a hole in the ship with reinforced concrete.

A hole made in the side plates, by ice or explosion was tightly closed on the outside by wooden boards and canvas. Steel rods and wires connected with frames and beams formed the reinforcing screen for concrete. The screen was covered by boards on the inside, holding the poured concrete until it hardened. Copy seen: DLC.

44803. ESKIMO. The Eskimo and the principle of conserving hot air. Eskimo invention, the "kukukpak." Eskimo boot and Manning boot. (Eskimo, Dec. 1956. v. 42, p. 18-21, diagrs.) Ref.

Three notes, dealing briefly with: (1) construction of Eskimo dwellings, gravity control of heat and ventilation and application of this principle to clothing, with diagrs. of E. Arctic snowhouse, Baffin Island earth and moss hut, Mackenzie Delta hut with wooden frame, Point Barrow hut, also clothing of Eastern Arctic Eskimo; (2) reasons for the "kukukpak," the point at the top of Eastern Arctic Eskimo hood; (3) construction of "iperauserk," summer boot, and improvements by Tom Manning. Copy seen: DLC.

44804. ESKIMO. On the rights of the Eskimo, (Eskimo, Mar. 1956, v. 39,

p. 3-5.)

Contains brief discussion, in relation to current changes in the North, of Eskimo rights as to place of residence, child nurture, choice of school, hospital, spending their money, etc. Case is made against taking sick Eskimos south for treatment, and against arbitrary exercise of authority by whites generally.

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44805. ESKIMO. To civilize the Eskimo. (Eskimo, Dec. 1956. v. 42, p. 3-9, illus.) 3 refs.

Discussion of Eskimo culture, the effects on it of contact with white men. problems in adaptation to the ensuing, and lasting changes; task of the missionary; Eskimo qualities.

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44806. ESKIMO. Twenty-five years at Chesterfield Hospital. (Eskimo, June

1956. v. 40, p. 4-19, 14 illus.)

Contains excerpts from records of the St. Theresa Hospital founded at Chesterfield Inlet (63°40' N. 90°40' W.) in 1931; under the Grey Nuns of Nicolet: names of sisters and doctors, medical statistics, dates and incidents from the records, epidemics, work of the doctor, Copy seen: DLC.

44807. ESKIMO BULLETIN. Tuktuk, Caribou. Ottawa, Mar. 1956. 6 p., 4 p. illus. Mimeographed. (Eskimo bulletin, v. 1, no. 6.) Text in Eskimo and English.

Deals with decline of the caribou and Government efforts to protect it. Eskimos are warned away from poisoned wolf bait; they are asked to report numbers of caribou and wolves killed, poisoned baits, poisoned animals. Prepared primarily for inland (Caribou) Eskimo, this letter is distributed to others also for conservation purposes. Previous issues of Eskimo bulletin were listed as No 34608. Copy seen: CaMAI.

44808. ESKIN, I. A., and G. M. VIDAVSKAIA. Vlifanie sveta na ėosinofily perifericheskol krovi i funktsifu kory nadpochechnikov. (Problemy endokrinologii i gormonoterapii, 1956. t. 2, no. 1, p. 82-87, illus., tables.) 11 refs. Text in Russian. Title tr.: Influence of light on the eosinophils of peripheral blood and upon the adrenal cortex.

Account of investigation on the seasonal and diurnal fluctuations of eosinophils in rats and the role light plays in these changes. An interrelationship was established between the length of light-days, eosinophil number, cortical activity and 17-corticosterone excretion.

Copy seen: DNLM.

44809. ESKRIDGE, PAUL S., and R. H. UDALL. The effect of cold starvation upon carbohydrate reserves in Peromyscus maniculatus. (Journal of mammalogy, Feb. 1955. v. 36, no. 1, p. 139-40.) 5 refs.

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Report on the effects of starvation and cold starvation upon liver glycogen and blood glucose of wild adult animals. On exposure to 0° C. after 12 hrs. of starvation, half of the animals died in 5.9 hrs., the remainder showed 0.779 mg. of glycogen per gram of liver and 24.8 mg. of glucose per 100 cc. of blood. The corresponding values in controls were 20.03 mg. and 106.8 mg. Injections of cortisone (50 mg./kg. body weight) did not increase survival time of those which died but may have increased gluconeogenesis in survivors. Copy seen: DA.

ESPENSCHADE, P. W., see Mardoian, F. M., and others. How to winterize construction equipment. 1956. No. 46617.

44810. ESSEN, REINHOLD von. Air operations of the Norwegian-British-Swedish Antaretic Expedition in 1952. (Polar record, Sept. 1956. v. 8, no. 54, p. 230–36, 2 illus., text map.)

Two small aircraft accompanied the Norsel from Sweden to evacuate this expedition at Maudheim. Sea-ice reconnaissance was carried out en route, and air photography (nine major flights) to assist topographic survey at the base. Preparations were made for air evacuation of the expedition, in an emergency (not The aircraft, their transport realized). aboard the Norsel, equipment and methods are described, including personnel (six), navigation, radio, and air photography. It is stressed that carefully planned use of small aircraft for photography of limited areas in conjunction with ground survey parties can produce mapping results comparable with those of much bigger projects. Copy seen: DLC.

44811. ESSO AIR WORLD. Finnair Aero O/Y; the story of Finnish Air Lines. (Esso air world, Nov.-Dec. 1955. v. 8, no. 3, p. 58-62, 13 illus., 2 tables.)

The development of the state airline in Finland is described. The company founded by Consul Bruno Lucander obtained its first airplane in 1923 and scheduled domestic service began in 1937. The domestic network provides service with the capital and every important town at least twice daily. The airline operates a West European service, and also flies into Moscow. Development of airfields, types of aircraft, company or-

ganization (private till 1946), etc., are sketched. Passenger and freight statistics for the period 1948-1954 are tabulated. *Copy seen:* DLC.

**44812.** *ESSO AIR WORLD.* The flying Lambs. (Esso air world, Sept.–Oct. 1954. v. 7, no. 2, p. 44–46, 6 illus.)

A brief history is given of Lamb Airways, a bush-flying and general transport service operated out of The Pas, Manitoba by Tom Lamb and his sons. The service began in 1935 and currently operates five planes, tractors, sleighs, etc. Typical assignments are noted: charter flying, mercy flights, transport of mining equipment from Churchill across the Barren Grounds, airlifting supplies to Geological Survey parties, etc.

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44813. ESSO AIR WORLD. Pacing Canadian aviation. (Esso air world, July-Aug. 1955. v. 8, no. 1, p. 16-21, 17 illus.)

An illustrated, historical account of the development of Canadian aviation is presented. The first heavier-than-air flight in Canada was made by Douglas McCurdy flying a 35-hp. biplane over frozen Bras d'Or Lake on Feb. 23, 1909. The development of bush flying in northern Canada came rapidly after World War I, primarily as a means of developing the mineral wealth in the area. The supply of aviation fuels and lubricants during the early days of Canadian aviation is emphasized.

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44814. ESSO AIR WORLD. Rotarywings over Greenland. (Esso air world, May-June 1956. v. 8, no. 6, p. 160-63, 10 illus.)

The use of helicopters in Greenland to expedite geodetic work on the ground is described and illustrated. Aerial survey of Greenland was completed in 1952, and helicopters operated by the Royal Danish Air Force cooperated with the Royal Geodetic Institute to provide rapid The first expedition transportation. equipped with two helicopters arrived at Scoresby Sund in July 1953. About 300 landings were made at 68 different stations during the period July 11-Sept. 2, with total flying time amounting to about 200 hrs. A similar expedition was carried out during the summer of 1954. operations were highly successful, corresponding to what could have been achieved in eight to ten seasons using traditional methods. Copy seen: DLC.

44815. ESSO AIR WORLD. The veterans of the airways: Alaska Coastal's Lockheed Vega 5 C. (Esso air world, Sept.-Oct. 1954. v. 7, no. 2, p. 54-55, 3 illus.)

Contains brief description of a veteran commercial aircraft built in 1929 and still in service. The plane is currently operated by Alaska Coastal Airlines of Juneau. Its original Pratt & Whitney Wasp C-1 engine was replaced in May 1945 by a Pratt & Whitney R-985 Wasp Jr. and a constant-speed airscrew was fitted.

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ESTERBROOK, E. G., see David, L. R. Thorium, a bibliography . . . 1953. No. 44553.

ETIENNE, J.-P., see Justin-Besançon, L., and others. Réfrigération . . . 1956. No. 45840.

44816. EULER-CHELPIN, ASTRID MARIA (CLEVE), 1875—, and L. PAIJKULL. Genom Lule Lappmark; två flickors vandringsminnen från sommaren 1895. (Svenska turistföreningen, Stockholm, Årsskrift, 1896. p. 227–40, 5 illus.) Text in Swedish. Title tr.: Through Lule Lappmark; memories of two girls' wandering in the summer of 1895.

Up the Lule river valley from Gällivare, via Harsprånget, Stora Sjöfallet, Kvikk-jokk, and Virijaure, to Bodø, these travelers related their experiences, with emphasis on plant life. A number of arctic species are identified and Nuonjes cited as the most interesting locality botanically. Clothing, supplies and expenses en route are noted.

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44817. EVANS, ALEXANDER WIL-LIAM, 1868- . Notes on the genus Herberta, with a revision of the species known from Europe, Canada and the United States. (Torrey Botanical Club. Bulletin, Apr. 1917. v. 44, no. 4, p. 191-222, 29 illus., plate 8.) 25 refs.

Contains historical notes, a morphological sketch, a key and descriptions of four species of hepatic genus Herberta, or Herbertus as it was originally spelled. Two are described as new, one is a new combination. Synonyms, critical notes and lists of specimens are given. H. hutchinsiae n. sp. occurring in Sitka,

various localities in Alaska and St. Paul Island of the Pribilofs, is included.

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44818. EVANS, EDNA HOFFMAN. January and snow. (Nature magazine, Jan. 1956. v. 49, no. 1, p. 48-50, illus.)

Contains description of techniques of photographing under snow conditions. Use of a medium yellow filter to absorb blue skylight, a deep yellow filter for more striking effects, or a red filter for extreme contrast is suggested. Backlighting, filters for color film, and new cameras are discussed.

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44819. EVANS, FREDERIC. Military hygiene in the Arctic. (Army quarterly, Oct. 1956. v. 73, no. 1, p. 82–87.)

Contains a discussion of special problems of hygiene encountered by British troops in the subarctic area around Arkhangel'sk during 1918-1919. malarial measures were not necessary in summer, and centralized incinerators downwind from the city disposed of refuse adequately. Underground storehouses banked with ice harvested during the winter were utilized for refrigeration. Disinfecting chambers were specially designed to reduce lice infestation in the winter. Bean shoots, etc., were grown as scurvy preventative. A special bathing and disinfecting train was utilized for troops at the front. Copy seen: DLC.

44820. EVGENOV, NIKOLAĬ IVANO-VICH, 1888- Nekotorye voprosy terminologii morskikh l'dov. (Meteorologiâ i gidrologiîa, July 1956. no. 7, p. 34–36, 2 illus.) 12 refs. Text in Russian. *Title tr.:* Several problems in the terminology of sea ice.

Different interpretations of the same term are discussed as a problem in the effort towards standardization. Terminology of ice concentration is discussed: characteristics of conglomerated, consolidated and close ice are given. The shipboard observer's position in relation to wind direction is a factor in designation of ice, comments are made on characteristics of leeward and windward edges.

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44821. EVJEN, SIGURD, 1894—. Holdepunkter for temperaturvarsler på lengere sikt. (Naturen, Dec. 1950. årg. 74, nr. 12, p. 371–77, 2 refs.) Text in Norwegian. *Title tr.:* Standards for long range temperature forecasting.

Temperature records for individual months at Ås were divided into warm, moderate, or cold, to determine means of forecasting temperature for a particular month on the basis of preceding data. Summer months are more predicatable than winter. Predictions for Ås, a village near Oslo, were found applicable to the Skagerrak coast; and as far away as Finnmark they are more applicable than otherwise. Suggestions are made for more extended comparisons and possibilities.

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44822. EVJEN, SIGURD, 1894—. Number of cyclones and anticyclones in northwest and middle Europe. (Norway. Meteorologiske institutt. Meteorologiske annaler, 1954. bd. 3, nr. 16, p. 459–85, 7 text maps, 5 graphs, 17 tables.) Ref.

During 1946-1950, cyclone and anticyclone centers were counted on daily weather maps four times a day in an area approx. 45°-80° N. 35 °E.-35° W., including northern Scandinavia, Svalbard, Greenland Sea, and part of Denmark The preliminary report on anticyclone centers was listed as No. 28955. Monthly and yearly numbers of centers within the area and its 32 subdivisions are presented in charts, tables and graphs, with discussion. Strong, medium, and weak centers are distinguished. relations are considered between mean air pressure and numbers of centers, standard deviations and distribution curves of each square, and the geographical distribution of cyclone and anticyclone centers during the various seasons. Copy seen: DWB.

44823. EVJEN, SIGURD, 1894— . Statistisk varsling av middelverdier. (Naturen, 1955. Årg. 79, nr. 6, p. 162–83.) Text in Norwegian. *Title tr.*: Statistical forecasting of averages.

Monthly temperature averages, of little value in themselves, are derived by means which have greater practical applications. In this discussion, records from Andenes, northern Norway, are included and evaluated.

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44824. EVSEEV, S. F. Razvitie narodnogo obrazovaniâ v Âkutii i pomoshch' russkogo naroda. (In: Akademiâ nauk SSSR. Âkutskii filial. Institut îazyka, literatury i istorii. Vedushchaîa rol' russkogo naroda . . . , 1955. p. 172–81.) 11 refs. Text in Russian. Title tr.: The development of public education in

Yakutia and the aid rendered by the Russian people.

Reviews the creation of Russian schools (1732–1917) in Yakutia: naval schools (akademii) in the 18th century, public and parochial elementary schools in the 19th century. The development of the school system in the Soviet period is sketched and selected statistical data on schools, students, teachers, schooling of adults and public education budget for 1924–55 are given. Copy seen: DLC.

44825. EWERDAHL, SUNE. Ice helped construct the Lulea bridge in northern Sweden. (World construction, Apr. 1956. v. 9, no. 4, p. 48-50, 53-54, illus., diagrs.)

Details of the construction of this drawtype bridge at the Lule River mouth, 65 miles south of the Arctic Circle are described. The bridge is the double bascule type with an over-all length of 2939 ft. The main facilities used for winter work are described and illustrated.

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44826. EWING, HENRY ELLSWORTH, 1883- . The dermanyssid mites of North America. (U. S. National Museum. Proceedings, Jan. 27, 1923. v. 62, art. 13, no. 2459, p. 1–26. 7 illus., 2 plates.)

Contains keys to the subfamilies, genera and species of the family Dermanyssidae, descriptions of the genera and of 23 species. Two subfamilies, six genera and eleven species are described as new. Ichoronyssus semitectus from a lemming, Myodes torquatus (p. 13) is recorded in Greenland.

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44827. EWING, HENRY ELLSWORTH, 1883- . A revision of the American

lice of the genus Pediculus, together with a consideration of the significance of their geographical and host distribution. (U. S. National Museum. Proceedings, June 10, 1926. v. 68, art. 19, no. 2620, p. 1–30, 8 illus., 3 plates.) 25 refs.

Contains a discussion of this genus with data on taxonomy and economic importance, keys, and a list of nine species and varieties. Two distinct groups are considered, one confined to man, the other to monkeys. A sub-genus, two species and one variety are described as new. P.(Pediculus) humanus angustus, a Japanese race, was brought to America by Orientals: three were "taken by Dr. L. Stejneger in 1882, from an Aleutian Eskimo at Bering Island." These lice

appear to be hybrids. Data on geographical distribution of lice and their hosts are appended. **Copy seen:** DLC.

**44828. EWING, MAURICE,** and **W. L. DONN.** A theory of ice ages. (Science, June 1956. v. 123, no. 3207, p. 1061–66,

illus., map.) 45 refs.

Contains "a preliminary report of new ideas related to the origin of glacial climates" based on 20 years' observations. It is postulated that "some mechanical process has caused the poles to migrate to positions very favorable for the development of glacial climates." The changes during the Pleistocene are assumed to have resulted from alternations of icefree and ice-covered states of the Arctic Ocean caused by polar dislocation from its freely circulating to enclosed areas. The same mechanism could explain similar climatic changes in earlier epochs. The theory complies with the doctrine of uniformitarianism and claims no external or catastrophic events. Challenged by I. I. Schell in Science, Feb. 8, 1957, v. 125, p. 235.

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44829. EXIDE TOPICS. Hunting icebergs. (Exide topics, Mar.-Apr. 1956. v. 30, no. 2, p. 2-3, illus., text map.) Contains a brief popular account of the work of United States Coast Guard vessels and aircraft for the International Ice Patrol. The Labrador Current collects as many as 7,500 sizeable bergs each year; course is plotted of the 50-1400 which cross the 48th parallel, and where shipping is warned. Function of the electric storage battery in communications and shipping generally is stressed.

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44830. EXPÉDITION GLACIOLOGI-QUE INTERNATIONALE AU GROEN-LAND. Réunion du 3 au 8 Avril 1956 en Suisse. Grindelwald, 1956. 26 p. Mimeographed. Text in German or French. Title tr.: International Glaciological Expedition to Greenland. Meeting of April 3-8, 1956 in Switzerland.

Reports on meetings of scientists from eight countries at Grindelwald and Jungfraujoch Research Station under presidency of Prof. R. Haefeli. This expedition was organized and the scientific program outlined. The principal countries participating are Germany, Denmark, France, and Switzerland. The E. G. I. G. will be supported by the Union Géodésique et Géophysique Inter-

nationale and directed by Paul-Émile Victor. The principal aims are glaciological investigation of a west-east strip of the Greenland inland ice between 69° and 73° N.; creation and measurement of a permanent network of markers for the control of movement, variation, and balance of the inland ice for long distances, seismic investigations north of 74° N. lat. The program is provisionally scheduled during the International Geophysical Year.

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44831. EXPÉDITIONS POLAIRES FRANÇAISES. Terre Adélie, Groenland, 1947–1955; rapport d'activités. Paris, Arthaud, 1956. 152 p. illus., text maps, diagrs. Text in French. Title tr.: Adélie Land, Greenland, 1947–1955;

report of activities.

Contains report on the eight consecutive years' work of ten French expeditions (110 participants) in Greenland, Iceland, and Antarctica. Background. program, and organization are dealt with in pt. I: headquarters in Paris, the Scientific Commission, and activities from the foundation of Expéditions Polaires Françaises in 1947 to July 20, 1955. In pt. 2 (p. 29-82) each expedition to Terre Adélie and Greenland, is outlined in turn: program, preparation and supply, personnel, events, camps (plans of huts, etc.). Work in Iceland 1950-1953 is described. Sketch is given of A.-P. Martin, A. Joset, and J. Jarl who died during the expeditions. Scientific objectives, program and operations are presented in pt. 3: technical phases, equipment, food, medicine, photography, etc., observations are listed, but no data given.

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EXPÉDITIONS POLAIRES FRANÇAI-SES, 1948-1953, see Bedel, B. Les observations météorologiques . . . 1949 . . . 51. 1954. No. 43918.

44832. EXPLORERS CLUB, New York. Told at the Explorers Club; true tales of modern exploration. Edited by Frederick A. Blossom. New York, A. & C. Boni, 1931. x, 425 p. diagrs., plates.

Thirty-three explorers recount some adventure experienced in their travels, several of them in arctic regions as listed below:

Bartlett, R. A. Bringing the crippled *Roosevelt* home, p. 29–52: Account of the return voyage of Peary's 1905–1906 ex-

peditionary ship under the author's com-The ship had been damaged mand. during the wintering at Cape Sheridan (82°30' N.) on northern Ellesmere. En route to New York (July 4 to Dec. 24) two of the four propeller blades sheared away and the rudder was destroyed; emergency steering gear was rigged. Stops for refueling, repairs, or to discharge Eskimos used by Peary were made at Etah, Kookan, Cape York, Hebron, Hopedale, Battle Harbour, Port-aux-Basques, and Sydney, Cape Breton.

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Ekblaw, W. E. Thin ice, p. 81-89: Account of author's experience on a hunting expedition with two Greenlanders. The party camped on sea ice in Wolstenholme Sound after harpooning a large walrus, and was nearly cut off from shore by a lead which developed on approach of a southerly gale. Men and dogs crossed the lead successfully when it was covered with a thin layer of new ice.

Fiala, A. At close quarters with a polar bear, p. 91-96: Leader of the Fiala-Ziegler Expedition, 1903-1905, on the west coast of Rudolf Island tells of decoying a large polar bear by imitating seal, and his rifle failing to fire till the bear was 15-18 ft. away.

Frothingham, R. Walrus hunting with the Eskimos, p. 123-37: Describes experiences during a walrus hunt off Wainwright, Alaska in summer of 1930, when cutter Northland transferred 15 natives and three umiaks to the ice pack about 25 miles off shore; 26 walruses were taken and an adequate winter supply assured for the village.

Hobbs, W. H. A week's adventures in Greenland, p. 151-63: Recounts adventures in southwest Greenland Sept. 1928, when author's party located the lost Rockford flyers, Hassell and Cramer (cf. No. 7148) and the entire group was shipwrecked, then rescued by a small Danish vessel. A photograph of Dr. Hobbs with the lost flyers is included.

McConnell, B. M. Rescued from the "death trap" of the Arctic, p. 223-38: Describes the loss of the Karluk in the north of Alaska on Stefansson's Canadian Arctic Expedition of 1913–1918, and the subsequent rescue of survivors marooned on Vrangel Island.

Riesenberg, F. Arctic ghost, p. 285-300: Recounts experience of a small wintering party of the Wellman Polar Expedition of 1906-1907 encamped in a haunted hut on Danish Island off Vest-

spitsbergen.

The royal road to Stefansson, V. humdrum, p. 321-36: Presents anecdotes from author's experiences to dispel misconceptions: that eating snow when thirsty is dangerous; that snow should be rubbed on frost-bitten areas; that the arctic night is depressing; etc.

Wilson, E. B. Adventure off the Alaskan coast, p. 409-417: Relates author's first passage aboard the converted schooner Dora on her regular trip Seward-Unalaska-Bristol Bay in 1913, and pictures travel conditions on passenger boats of the day.

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44833. EXPLORERS JOURNAL. [Expeditions.] (Explorers journal, 1956. v. 34, no. 1, p. 12-17; no. 2-4, p. 6-14 illus., ports.)

Contains notes on the following: John McCall Memorial Expedition in Alaska, which made first ascents of University and McCall Peaks, third ascent of Mt. Bona, and unsuccessful attempt on Mt. Blackburn, May-June 1955 (no. 1, p. 12); mountaineering expeditions in summer 1955 to the Chugach Range, Alaska (three ascents), and Logan Mts., Mackenzie District: 16 first ascents (no. 1, p.

Ninth consecutive summer of scientific studies on the Juneau Ice Field, Southeast Alaska, by seven-man party led by E. R. LaChapelle, summer 1956 (no. 2-4, p. 11);

Departure of Soviet expedition led by N. A. Volkov of the Arctic Research Institute to make oceanographic, magnetic, and meteorological observations at and near the North Pole, spring 1956 (no. 1, p. 15);

Two expeditions of the Oceanologic Institute of the Soviet Academy of Sciences, summer 1955, which explored the depression surrounding the Aleutian Islands to a depth of more than 22,960 ft., studied structure of mountain chain from Hawaii to Aleutians, and collected data on fishing grounds (no. 1, p. 17);

British university expeditions, summer 1955: Nottingham geological and glaciological expedition to Vestspitsbergen; glaciological expedition to Nordaustlandet by Oxford; Cambridge Expedition to East Greenland where geological, ethnological, botanical and zoological collections were made and geese were banded. (no. 2, p. 6).

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EXPLORERS JOURNAL. see also Schwarz, H. F. Obituaries. 1956. No. 47850.

EXTREMENT, JOSETTE, see Cain, J., and others. Quelques effets . . . de l'hypothermie . . . 1956. No. 44236.

44834. EYDAL, ÁSTVALDUR. Some aspects of the herring fishery and herring industry of Iceland. (In: International Geographical Union. Eighth General Assembly and Seventeenth International Congress, Washington, D. C., Aug. 8-15, 1952. Proceedings, pub. 1956? p. 612-15, illus., 2 text maps.)

Contains information on the history, methods and yields of this fishery since its beginnings in 1870. Biology of herring. local species, research on distribution and migration are outlined. Utilization of north- and south-coast herring, herring products and their quality; also econonomics of the industry generally are discussed. Copy seen: DGS.

44835. EYINCK, DONALD H. Alaska, the 49th state? (American city, Sept. 1956. v. 71, no. 9, p. 168, 172, 174.)

Contains brief description of parts of Alaska's new constitution, drawn up during winter 1955-1956 by a group of delegates and adopted by election on Apr. 24. 1956. The organization of state government, emphasis on local self-government, and provision for changes in the constitution are noted. Copy seen: DGS.

44836. EYTHÓRSSON, JÓN PÉTUR, 1895 - Report on sea ice off the Icelandic coasts in Oct. 1954-Sept. 1955. (Jökull, 1955. År. 5, p. 47-51.) In continuation of No. 34633-34634, 39754.

Based on aircraft, shipboard observations between Iceland and Greenland, and meteorological station reports. Iceland coasts were practically free of sea ice during this period: scattered drift ice approached the northwest coasts for a few days, and single icebergs or floes were seen occasionally. Reports, by month, show day, and latitude and longitude of ice boundary. Ice concentration (coverage) is given, in tenths. No maps are provided. Copy seen: DGS.

44837. F., K. A. En rundresa i Norrbotten 1891. (Svenska turistföreningen, Stockholm. Årsskrift, 1892, p. 181–204.) Text in Swedish. Title tr.: A round trip in Norrbotten, 1891.

Writer traveled from Piteå, via Aborrträsk and Arjeplog to Nasa, where an old silver mine is located on the Swedish-Norwegian boundary; and continued down Lonsdalen and to Bodø in Norway. The return route was via Sulitjelma to Kvikkiokk. Travel conditions in July were good; regions traversed are well described. Copy seen: DGS.

44838. FADEEV, E. Pervichnaîa obrabotka shkurok. (Okhota i okhotnich'e khozîaIstvo. Jan. 1956, no. 1, p. 9-13, illus., fig.) Text in Russian. Title tr.: Primary processing of hides.

Brief technical instructions, including processing of arctic fox, squirrel, muskrat, and other northern fur-bearers' skins.

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44839. FAEGRI, KNUT, 1909- . Da kvenene overfalt Ottar. (Naturen, 1955, årg. 79, nr. 4, p. 124-26.) Text in Norwegian. Title tr.: When the Lapps attacked Ottar.

Reviews work on Ottar, a ninth century Norwegian geographer, and reports of the Lapps, probably from the Torneträsk region in Sweden, following streams with light boats, crossing the drainage divide into the Bardu and Alta region of north coastal Norway, and encountering the Norsemen, probably near Malangen in Troms, where Ottar is believed to have lived. Copy seen: DLC.

44840. FAEGRI, KNUT, 1909- . Om utbredelsen av Siphula ceratites (Whg) E. Fr. i Norden. (Blyttia, 1952. bd. 10, hefte 3, p. 77-87, illus., text map, table.) 20 refs. Text in Norwegian. Summary in English. Title tr.: On the occurrence of Siphula ceratites in the North.

This lichen, occurs in scattered locations along the Norwegian and Kola Peninsula coast and in northern Sweden; apparently it has unique ecological requirements. Damp, coarse, shallow, slightly acid soil may be a concurrence factor, because the species also occurs where solifluction prevents closed vegetation cover. Whether it belongs to refuge flora of the glacial period should be investigated. Copy seen: DLC.

44841. FAEGRI, KNUT, 1909- . Omkring granens innvandring i Vest-Norge. (Naturen, July-Aug. 1950. Årg. 74, nr. 7, p. 226-39, 2 diagrs., 2 text maps.) Text in Norwegian. Title tr.: Migration of the pine into western Norway.

Pine may have survived on some of the botanical refuges believed ice-free during the last glaciation; Yoldia arctica thrived along the Norwegian coast at that time. At present, on the West Greenland coast, this species is found only very far north. Nowhere that it is found do trees grow under normal hydrographic conditions. Twigs of Scandinavian pine are always fuzzy or covered with hair except those on Norway's west coast, in a limited part of Swedish Lapland, and on Kola Peninsula, where both smooth and hairy twigged types occur.

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44842. FAEGRI, KNUT, 1969– and E. MOSS. On the occurrence of the genus Codium along the Scandinavian coasts. (Blyttia, 1952. bd. 10, hefte 4, p. 108–113, illus., text map.) 14 refs. Text in English. Summary in Norwegian.

Rarely seen along the Norwegian coast until recent years, Codium is one of the algae presently common immediately below low tide level where fresh-water streams are lacking. Its occurrence at Røst, north of 67° N. is possible because of the ocean temperature well off the mainland.

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44843. FAEGRI, KNUT, 1909– . På botanisertur i Junkerdalen. (Naturen, 1956. Årg. 80, nr. 3, p. 131–52, 3 illus.) Text in Norwegian. *Title tr.*: On a botanical tour in Junkerdalen.

In Junkerdalen, Nordland, are two rare species of plants: a Saxifrage found also in one southwestern Norwegian locality; and a Carex otherwise unknown to Europe, but found elsewhere in the Arctic. From these occurrences the author leads to discussion of plant habitats, the northern Norwegian plant refuges, bedrock, climate and botanical history.

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44844. FAEGRI, KNUT, 1909—. Some reflections on the trophic system in limnology. (Nytt magasin for botanikk, 1954. v. 3, p. 43-49, diagr.) 11 refs.

1954. v. 3, p. 43-49, diagr.) 11 refs. In modern limnological literature "trophic" is generally defined as pertaining to the organic production of lakes. This concept is discussed with respect to aretic lakes, all of which are oligotrophic from a productive point of view. Conclusion is offered that a lake should be classified according to its climate, morphology of the basin, and chemistry of the water, because these are expressed in the flora and fauna. Copy seen: DA.

44845. FAGERSTRÖM, LARS. Ostfennoskandiens Collema-arter. (Societas

pro fauna et flora fennica. Memoranda, 1954-55. v. 31, p. 38-42.) Text in Swedish. *Title tr.: Collema* species of eastern Fennoscandia.

Finnish species (17) of this lichen genus are tabulated for the provinces in which they occur, and the geographic distribution is discussed. Eastern Fennoscandian provinces are listed with the number of species recorded in them. In northeastern Fennoscandia, Kuusamo has 12 species, Finnish Lapland five, and Russian Lapland eight.

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44846. FAGERSTRÖM, LARS. Växtgeografiska studier i Strömfors-Pyttis skärgård i Östra Nyland, med speciellt beaktande av lövängarna, artantalet samt en del arters fördelning och invandring. Helsingfors, 1954. 296 p. 5 tables, 48 text maps, fold. map. (Acta botanica fennica, no. 54.) Over 800 refs. Text in Swedish. Title tr.: Plant geography investigations in the Strömfors-Pyttis skerry district of eastern Nyland, with special attention to leafy meadows, species numbers, distribution, and immigration.

Leafy species in the meadow vegetation of this district on the south Finland coast are treated in detail. In the discussion of 26 infrequent floral species, the question of immigration is considered. Eighteen of the 26 are known in the Arctic according to reproduced maps.

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44847. FAHRIG, WALTER FREDE-RICK, 1926– . Cambrian Lake (west half), New Quebec. Ottawa, Queen's Printer, 1956. Map sheet 22 x 24 in. (Canada. Geological Survey. Paper 55-42.) 2 refs.

Map (scale 1 in.: 4 mi.) with detailed marginal notes covers the area 56°-57° N. 69°-70° W. in the Kaniapiskau River basin. The western two-thirds of the map-area is composed of the Archean pre-Kaniapiskau group of granite and granitoid gneisses with inclusions of more basic gneiss. The easternmost map-area is underlain by the Proterozoic Kaniapiskau group of sedimentary rocks. Stratigraphy and structure of the younger group are described. Iron-formation outcrops were examined previously for iron ore, but no deposits of commercial The quartz-pebble value were found. conglomerates west of Cambrian Lake should be investigated for radioactive minerals. Copy seen: DGS.

44848. FAHRIG, WALTER FREDE-RICK, 1926- . Lac Herodier (east half), New Quebec; map with marginal notes. Ottawa, Queen's Printer, 1956. Map sheet 24 x 26 in. (Canada. Geologi-

cal Survey. Paper 55-37.)

Map (scale 1 in.: 4 mi.), with detailed marginal notes, covers the area 57°-58° N. 68°-69° W., south of Fort Chimo, between Koksoak and Whale Rivers and including False River basin. The eastern boundary of the Labrador Trough crosses the southwestern corner of the map-area. Precambrian bedrock includes sedimentary, intrusive, and volcanic rocks which have been regionally metamorphosed and deformed as a unit, the degree and grade of metamorphism increasing toward the northeast. The major structures of both the Labrador Trough strata and the metamorphic rocks to the east trend northwest. Extensive interest has been shown in chalcopyrite and nickeliferous pyrrhotite deposits, but the iron formation of the region is not likely to be economically important.

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44849. FAĬNBOĬM, I. Angara, reka ėlektrichestva. (Vokrug sveta, Mar. 1956. no. 3, p. 2-6, illus., map.) Text in Russian. Title tr.: Angara, the river of electricity.

Popular sketch of the Angara and plans to utilize its power; abundance of water. banks, natural beauty, resources of its basin (coal, lignite, iron ores, etc.) and its rapids; basic features of the hydroelectric station under construction at Bratsk, capacity 3,200,000 kwt. are noted. Copy seen: DLC.

44850. FALK, HJALMAR. Något om Kiruna. Kiruna, Kiruna stads turistnämnd, 1955. 63 p. illus. Text in Title tr.: Kiruna. Swedish.

Information for the tourist and general reader on this northern Swedish iron mining town (67°51' N. 20°13' E.), its history, development of the ore, growth of the population, schools, banks, public services, and recreational facilities, municipal government, church, miners' pensions; nearby settlements are also briefly noted, many of them now part of Kiruna.

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FALKOWSKI, SIGMUND J., see de Percin, F., and S. J. Falkowski. Frequencies . . . low temperatures . . . Alaska. 1956. No. 44604.

FALKOWSKI, SIGMUND J., see also de Percin, F., and S. J. Falkowski. A topoelimatic study, Fort Churchill . . . 1956. No. 44606.

44851. FALL. HENRY CLINTON. 1862-1939. New species of Pogonocherus, with synoptic table. (Entomological news, Jan. 1910. v. 21, no. 1, p. 5-9.)

Contains descriptions and discussion of three new beetle species and a synoptic table, including P. alaskanus.

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44852. FALL, HENRY CLINTON, 1862-1939. The North American species of Ilybius: Coleoptera, Dytiscidae. (Entomological news, Nov. 1927. v. 38, no. 9, p. 281-85.)

Contains a discussion of the genus and its subdivision in two groups, a table of the species and distributional data. I. subaeneus occurring in Laborador and I. angustior ranging from Labrador to Alaska, are included. Copy seen: DA.

FARAH, ALFRED EMIL, 1914-, see Katzung, B., and A. Farah. Influence . . . temperature and rate . . . contractility . . . myocardium. 1956. No. 45912.

44853. FARLEY, ROBERT A. Concrete pours continue as heated tents beat Alaskan winter. (Western construction, Feb. 1954. v. 29, no. 2, p. 60-61, illus.)

Winter construction methods for the new 5-story, 400-bed hospital at Elmendorf Air Force Base near Anchorage are described briefly and illustrated. Large tarpaulins are draped in tent-like fashion over the area before the concrete is poured. The area (40 x 133 ft.) is warmed by eight portable heaters, and the concrete heated before pouring. The method can be used to carry on concreting throughout the entire winter season.

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44854. FARNER, DONALD STANLEY, 1915- . Body temperature of the fairy prion, Pachyptila turtur in flight and at rest. (Journal of applied physiology, Mar. 1956. v. 8, no. 5, p. 546-48, tables.) 21 refs.

Cloacal temperatures obtained from his petrel indicate that the body temperature in flight is about 1.6° C. higher than in active birds on the ground, and about 2.9° C. higher than in brooding birds during the daytime.

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FARNER, DONALD STANLEY, 1915—, see also King, J. R., and D. S. Farner. Bioenergetic basis . . . light-induced fat deposition . . . sparrow. 1956. No. 45985.

44855. FARQUHAR, FRANCIS PEL-OUBET, 1887— . Henry P. Karstens, 1878–1955. (American alpine journal, 1956. v. 10, no. 1, issue 30, p. 112–13.)

Obituary of this Alaskan mountaineer and businessman who came to Alaska in 1897 during the gold rush. He was the climbing leader of the Stuck party which made the first successful ascent of Mt. McKinley's highest peak in 1913, and he became first superintendent of Mt. McKinley National Park, 1921–1928.

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FARQUHAR, RONALD McCUNN, 1929 - , see Wilson, J. T., and others. Economic significance . . basement subdivision and structures in Canada. 1956. No. 48980.

44856. FARRAND, WILLIAM RICHARD. The regimen of a marginal portion of an ice cap in northwest Greenland, Columbus, Ohio, 1956. iii, 65 l., diagrs., graphs, sketch maps, photos, tables. 7 refs. M. S. thesis to Ohio State Uni-

versity. Typescript.

Studies of ablation, climatology, and meltwater runoff were conducted during the summer of 1955 and in March 1956 in the vicinity of an independent ice cap near Nunatarssuaq, 76°57' N. 66°58' W. (64.5 km. northwest of Thule). Meteorological data were collected at five stations placed in the area. These data are tabulated, and meltwater discharge as related to cloud cover, radiation, and wind is graphed. Ablation data were obtained with ablation stakes set above the ice cliff and placed horizontally into the ice cliff as well as with an ablatograph. The amount of snow melt, effect of elevation on melting, and average daily meltwater produced are graphed.

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**44857. FASSETT, NORMAN CARTER, 1900**- . *Bidens hyperborea* and its varieties. (Rhodora, Sept. 1925. v. 27, no. 321, p. 166–71.)

Contains a key and descriptions of seven varieties, two and one hybrid described as new. B. h. var. typica is known from the original collection at Rupert House, James Bay, Sept. 5, 1885 by J. M. Macoun. Copy seen: DA.

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**44858. FASSETT, NORMAN CARTER, 1900**– . *Bidens hyperborea* var. *typica* (Rhodora, Apr. 1946. v. 48, no. 568, p. 82–83.)

This variety was described by the author in 1925 (No. 44587) from Rupert House on James Bay. The treatment is revised on the basis of recent collections of Rev. A. Dutilly and Rev. E. Lepage at Rupert House and Eastmain River. B. hyperborea var. laurentiana is reduced to a synonym of B. h. tupica.

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44859. FATCHIKHINA, O. E. Priemy okul'turivanifa torfifano-gleevykh kar'-ernykh pochv. (In: Akademifa navuk, Minsk. Instytut melifaratsyi, vodnaf i balotnaf haspadarki. Trudy. 1953. t. 2, p. 111–27, tables.) Text in Russian. Title tr.: Cultivating methods for peatelay quarry soils.

Study of morphological and physiochemical properties of deep-layer peat soils ("gley") with anaerobic bacteria is described. This infertile soil was made highly productive by mixing with it various mineral components. The results of these experiments are presented in eight tables.

\*\*Copy seen: DLC.\*\*

FATEEV, E. M., see Vinter, A. V., and E. M. Fateev. Ispol'zovanie ėnergii vetra . . . 1955. No. 48761.

FAUNA SSSR. Leningrad—Moskva, Izd-vo Akademii nauk SSSR, 1911—, in progress. In continuation of No. 28977, see

Dubinin, V. B. Analgesoidea . . . ch. 3 . . . Pterolichidae. 1956. No. 44668.

Grunin, K. IA. Gastrophilidae. 1955. No. 45322.

Kozhanchikov, I. V. Lepidoptera, t. 3, vyp. 2: Psychidae. 1956. No. 46106.

Rubtsov, I. A. Simuliidae. Izd. 2. 1956. No. 47695.

Telenga, N. A. Hymenoptera, Braconidae 3–4. 1955. 48355.

44860. FAWLEY, ALLAN P. Geology of the Lasthope Lake area, Granville Lake division, Manitoba. Winnipeg, Queen's Printer, 1952. 27 p. fold. map 24 x 41 in., tables. (Manitoba. Dept of Mines and Natural Resources. Mines Branch. Publication 49–5.) 2 refs.

Map (scale 1 in.: ½ mi.) covers the area 56°30′-45′ N. 100°45′-101° W.,

about 17 mi. south-southeast of Lynn Lake. Access and physical features are briefly described. Field work was carried out in summer 1949. Consolidated rocks include the Archean Wasekwan volcanic and sedimentary series, the overlying Sickle sedimentary series, and post-Sickle intrusives. Gneisses similar to those of the Kissevnew complex to the south cannot be placed stratigraphically and may be of more than one age. Faults, generally trending north throughout the map-area, are reflected in the topography. Suggestions are given on prospecting for nickel-copper and gold. A gold-bearing vein is described.

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44861. FAWLEY, ALLAN P. Geology of the Sickle Lake area, Granville Lake division, Manitoba. Winnipeg, 1949. 19 p. fold. map 30 x 41 in., tables. (Manitoba. Dept. of Mines and Natural Resources. Mines Branch. Report and map, 48–6.) 2 refs.

Map (scale 1 in.: ½ mi.) covers the area 56°30′-45′ N. 100°30′-45′ W., about 20 mi. southeast of Lynn Lake. Mapping was done June-Sept. 1948. Physical features are described. Consolidated rocks are Precambrian. Volcanic and metamorphosed sedimentary rocks of the Archean Wasekwan series are intruded by igneous rocks and overlain by the Sickle sediments, over 10,000 ft, thick and intruded by diorite sills and pegmatites. Other intrusives also appear to be post-Sickle in age. The Sickle sediments are folded into two basins which trend generally north. Faults also trend north and are reflected by the topography. No orebodies are known to date. Further prospecting should be accompanied by a geophysical survey. Chemical analyses are given of ten rocks from the area. Copy seen: DGS.

FAZEKAS, JOSEPH F., see Albert, S. N., and J. F. Fazekas. Cerebral hemodynamics and metabolism . . . hypothermia. 1956. No. 43556.

44862. FEDOR, EDWARD J., and others. Effect of hypothermia upon induced bacteremia. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 514-15.) Other authors: E. R. Fisher, B. Fisher, and J. V. Dattilo.

Account of experiments on dogs injected with E. coli or A. aerogenes. Results indicate that though hypothermia does not provoke bacteremia, it depresses clearance of bacteria from the blood. **Copy seen:** DLC.

44863. FEDOR, EDWARD J., and others. Effect of hypothermia upon induced bacteremia. (Society for Experimental Biology and Medicine. Proceedings, Dec. 1956. v. 93, no. 3, p. 510-12, tables.) 11 refs. Other authors: E. R. Fisher, S. H. Lee, W. K. Weitzel, and B. Fisher.

Hypothermic and normothermic dogs inoculated with bacteria were able to rid their blood within six hrs. of 99 percent of the injected pathogens. Within 24 hrs. after injection of A. aerogenes and E. coli normothermic dogs cleared the blood completely while hypothermic dogs did not; however, 12–24 hrs. after rewarming, only one out of 11 cooled animals had bacteremia.

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44864. FEDOR, EDWARD J., and others. The effect of prolonged hypothermia on oxygen consumption of the liver slice. (Surgical forum, 1956. v. 6, p. 141-46, tables.) 9 refs. Other authors: M. Levine, C. Russ, and B. Fisher.

Report of investigations on liver slices from dogs made and kept hypothermic (24°-22° C.). Oxygen uptake by the slices was not altered by 1-5 hrs. hypothermia but there was a significant decrease in fatty acids. Cooling for 6-28 hrs. significantly decreased the respiration and caused considerable changes in liver glycogen, protein- and non-protein-nitrogen, and in protein. Rewarming the animals restored conditions to normal. Copy seen: DNLM.

FEDOR, EDWARD J., see Fisher, B., and others. Some physiologic effects . . . hypothermia . . . liver. 1956. No. 44906.

44865. FEDOROV, E. A. Mekhanizatsifa pod''ema i ukladki kuskovogo torfa v pervichnuû figuru sushki. (Akademifa navuk BSSR, *Minsk*. Instytut torfa. Trudy, 1953. t. 2, p. 114–26, illus, table, graphs.) Text in Russian. *Title* tr.: Mechanization of the lifting and stacking of peat bricks for primary drying arrangement.

Various types of peat cutting and lifting machines are described and compared with the recent type UKT, developed by the Peat Institute for cutting flat bricks, lifting, turning and stacking for drying position. The efficiency of machine operation on an experimental field was 77-84 percent. Copy seen: DLC.

FEDOROV, K. P., see Gubanov, N. M., and K. P. Fedorov. Gel'minty . . . zaĭtŝa-belîâka . . . 1956. No. 45326.

FEDOROV, K. P., see also Ryzhikov, K. M., and others. Biologicheskii tsikl protostrongilûsov . . . 1956. No. 47724.

FEDOROV, K. P., see also Ryzhikov, K. M., and others. K biologii Mosgovoyia pectinata . . . 1956. No. 47725.

FEDOROV, K. P., see also Ryzhikov, K. M., and others. Rasshifrovka biologicheskogo fsikla protostrongilûsov . . . 1956. No. 47726.

44866. FEDOROVA, R. V. K voprosu o proiskhozhdenii bugristykh bolot. (Botanicheskii zhurnal, July-Aug. 1953. t. 38, no. 4, p. 584-89, 6 illus., table.) 7 refs. Text in Russian. *Title tr.:* The origin

of mound swamps.

"The effects of soil freezing, ground ice and moss cover on mound formation and swamping were investigated by opening a swamped mound in tundra near Ob' Bay. Deposits of ground ice were found under peat layers at depths of more than 100 cm. Analysis of pollen in the mound strata showed the developmental process. Freezing of ground water and peat strata caused ground deformation and then swamping of the formed mound."—SIPRE.

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44867. FEDOROVA, R. V. Kolichestvennye zakonomernosti rasprostraneniâ pyl'îsy drevesnykh porod vozdushnym putem. (Akademiâ nauk SSSR. Institut geografii. Trudy, 1952. vyp. 52, Materialy po geomorfologii i paleogeografii SSSR, 7, p. 91–103, diagrs., tables.) 6 refs. Text in Russian. *Title tr.:* Quantitative regularities of the aerial spreading of the pollen of tree species.

Contains data on the spreading of pollen of pine, spruce, birch and several broadleaved trees (oak, etc.). Occurrence of pine and birch pollen in arctic regions is mentioned (p. 91-92, 97) 1,700 and 1,000 km. respectively from where these trees grow.

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FEDOROVA, R. V., see also Grichuk, V. P., and R. V. Fedorova. K voprosu o kharakteristike prilednikovoĭ rastitel'nosti...1956. No. 45290.

FEDOROVICH, B. A., see Obruchev, S. V. Spravochnik puteshestvennika . . . 1949-50. No. 47123.

44868. FEDOTOV, V. V. glubine Kol'skol tundry. (Ogonëk, Mar. 1956, god 34, no. 12, p. 7, illus.) Text in Russian. *Title tr.:* Deep in the Kola tundra.

Veterinarian's notes on activities at Krasnoshchei'ye, a Lapp-Zyryan reindeerbreeding collective far from the railroad in Kola Peninsula; village dwellings, school, library, electric light, etc. The herd numbers over 5,000 head; the farm income exceeds 900,000 rubles, and earnings of a single family exceeds 30,000 rubles.

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44869. FEIGIN, ÎAKOV GRIGOR'E-VICH. Puti osvoenifâ prirodnykh bogatstv Sibiri i Dal'nego Vostoka. Moskva, Izd-vo "Znanie," 1956. 32 p. maps incl. 1 fold. (Vsesofiznoe obshchestvo po rasprostranenifû politicheskikh i nauchnykh znanil. serifâ 3. no. 40.) Text in Russian. *Title tr.:* Ways of utilizing the natural resources of Siberia and the Far East.

Includes notes on the industrial development (achieved and planned) of Berezovo, Noril'sk, Yakutsk, Magadan, Petropavlovsk on Kamchatka, and that of other arctic and subarctic regions. Significance of the great hydroelectric installations under construction on Ob', Yenisey and Angara, for the planned development of Siberia is stressed.

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FEĬGIN, ĨAKOV GRIGOR'EVICH, see also Bal'zak, S. S., and others. Economic geography... U. S. S. R... 1952. No. 43857.

44870. FELBO, JØRGEN. Grønland i den danske presse. (Grønland, May 1956, nr. 5, p. 179-84, illus.) Text in Danish. Title tr.: Greenland in the Danish press.

States various points of view on how news of Greenland is treated in the Danish press. The difficulty of obtaining news quickly and accurately is stressed. It is important for the development of Greenland that news is kept before the Danish people.

\*\*Copy seen: DLC.\*\*

FEL'DMAN, f\hata. I., see Akademif\hata nauk SSSR. Institut geografii. Sneg i talye vody. 1956. No. 43523.

FENCL, V., see Brod, J., and others. Changes . . . renal haemodynamics and functions . . . cold stimulus. 1956. No. 44140.

FENTON, K. B., see Rose, D. C., and others. Latitude effect . . . cosmic ray . . . components . . . . 1956. No. 47658.

44871. FERGUSON, MAUDE. The Northwest Territories Council and presentation of the mace. Ottawa, Canadian Broadcasting Corporation, Jan. 1956.

5 p. Mimeographed.

Contains text of a CBC broadcast, Jan. 26, 1956, with excerpts from speech made by the Rt. Hon. Vincent Massey, Governor-General of Canada, in presenting the mace to the Northwest Territories Council; the Council and its work and the mace itself are described by M. Ferguson. James Houston, who supervised the work, describes how the mace was made by the Eskimos of Cape Dorset, Baffin Island

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44872. FERNALD, ARTHUR THOMAS, 1917—, and A. S. HOROWITZ. Bedrock geology of the Nunatarssuak area. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, pub. 1954. p. 11–25, illus.) 5 refs.

The results of investigations on the types and distribution of bedrock material, its usefulness for military engineering purposes, and the geological history of the area are reported. The area is underlain by about 85 percent metamorphic and igneous rocks, 14 percent sedimentary rocks and 1 percent diabase. Active frost-splitting, promoted and directed by prominent jointing in the bedrock, has produced throughout the area large rubble fields of two types: bedrock outcrops 1-20 ft. thick which cover only a small part of the area, generally valley bottoms and very steep cliffs; and rubble essentially in place or only slightly moved. Foundation conditions are generally good throughout the area, except along the south border of Nunatarssuak because of steep slopes, and in red and black shale in the south-The availability of construction materials in each geological unit and necessary excavation procedures are also considered. Recommendations for future studies are included. The present project resulted in a bedrock map of the area on a scale of 1:50,000. No additional field study for military purposes on the bedrock is recommended.

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44873. FERNALD, CHARLES HENRY 1838-1921. North Greenland Microlepidoptera. (Entomological news, May 1894, v. 5, no. 5, p. 129–32.)

Contains a description of Sericoris mengelana n. sp. and notes on Laodama fusca, Pyrausta torvalis and a small palegreen geometer resembling Nemoria. All these insects were captured at McCormick Bay, North Greenland (77°42′ N.), between July 25 and Aug. 1, 1891 by L. W. Mengel and W. E. Hughes with the Philadelphia Academy of Sciences' Peary relief party. Copy seen: DA.

44874. FERNALD, MERRITT LYNDON, 1873–1950. Critical notes on Carex. (Rhodora, Sept. 1942. v. 44, no. 525, p. 281–331, plates 710–716.) Pub. also as: Contrib. from Gray Herbarium of Harvard University, no. 144.

Contains critical studies of about 40 species, varieties and forms of sedges chiefly from North America. C. terraenovae n. sp. (Newfoundland) is described and compared with C. glacialis (Greenland, Ellesmere, Mackenzie, and Yukon). C. paleacea f. erectiuscula n. comb. (Labrador) and C. stylosa var. nigritella n. stat. (Alaska) are also included. A few new varieties and forms are described, many new combinations are made.

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44875. FERNALD, MERRITT LYNDON, 1873–1950. New species, varieties and transfers. (Rhodora, Sept. 1938. v. 40, no. 477, p. 331–58, plates 497–507.) Issued also as: Contrib. from Gray Herbarium of Harvard University, No. 122.

Includes descriptive and critical notes on Hackelia deflexa from Torne Lappmark (p. 342–43, plate 504); also a key to North American species of Erigeron (p. 346–48, plate 505) and distributional data on E. elangalus (Yukon, Alaska) and E. elatus (northeastern Manitoba and Mackenzie District).

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44876. FERNALD, MERRITT LYNDON, 1873–1950. Nomenclatural transfers and new varieties and forms. (Rhodora, Aug. 1937. v. 39, no. 464, p. 309–320, plates 470–73.) Published also as: Contrib. from Gray Herbarium of Harvard University, no. 118.

Includes descriptions and critical notes on Parnassia palustris var. neogaea n. var. (Labrador to Alaska), P. p. var. venuis (Dudinka, lower Yenisey, 69°23' N.), also on Astragalus frigidus from the

lower Yenisey River region and Torne Lappmark, Sweden. Copy seen: DA.

44877. FERNALD, MERRITT LYN-DON, 1873-1950. The North American variety of *Milium effusum*. (Rhodora, Sept. 1950, v. 52, no. 621, p. 218-22.)

Contains discussion of typical M. effusum, the plant of Eurasia, and comparison with the American plant; description is given of M. e. var. cisallanticum n. var. (type from Newfoundland, occurring also in southeastern Labrador.)

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44878. FERNALD, MERRITT LYNDON, 1873–1950. Some spermatophytes of eastern North America. (Rhodora, July 1940. v. 42, no. 499, p. 239–76, illus.,

plates 598-605.)

Contains nomenclatural transfers, several new combinations and critical revision of about 40 spermatophytes; three varieties are described as new. Two of them from Alaska: Stellaria calycantha (S. borealis) var. bongardiana n. comb. from Atka Island, and S. calycantha var. sitchana from Wrangel. The second part of this paper (p. 281–301) does not include arctic material. Copy seen: DA.

FERRER, M. IRENÉ, see Conference on Cold Injury, 1955. Transactions . . . 1956. No. 44430.

44879. FERRONI, A., and M. MANICA. Effetti della ipossia sulla respirazione in animali ipotermici. (Società italiana di biologia sperimentale. Bolletino, 1956. v. 32, no. 1–2, p. 119–20.) Text in Italian. *Title tr.*: Effects of hypoxia on respiration of hypothermic animals.

Account of observations on guinea pigs made hypothermic by administration of a mixture of O<sub>2</sub> with 12 percent or 6 percent N. Core temperature and respiratory rate were noted following measured periods of inhalation. The effects of breathing pure N. were also observed.

\*\*Copy seen: DNLM.\*\*

44880. FERSMAN, ALEKSANDR EVGEN'EVICH, 1883–1945. Osvoenie Kol'skogo poluostrova i ego bogatstv. (*In his:* Za polârnym krugom, 1932. p. 3–7, illus.) Text in Russian. *Title tr.:* Reclamation of Kola Peninsula and

its resources.

General outline of scientific exploration and industrial and economic development of Kola Peninsula during the early years (1920–1932) of Soviet rule. Three periods are distinguished: 1920–26, when the first scientific expeditions discovered the apatite deposits and proved their industrial value: 1926-30, the period of struggle to exploit the mineral resources, climaxed by the decision to build the railroad and increase the exploration: 1930-32, laving the foundations of industrial development by construction of a new town, mines, auto road, hospitals, etc.; discovery of the nepheline deposits and ores of molybdenum and rare earths (thorium, vanadium, titanium); extension of the area of exploration from 7.000 to 30,000 sq. km.: organization of local scientific institutions to carry on the work of the expeditions. Illus, shows the Academy's Scientific Station at Vud"vavr Lake opened in April 1932.

Copy seen: SPRI; DLC (microfilm).

44881. FERSMAN, ALEKSANDR EVGEN'EVICH, 1883–1945. Redkie élementy Khibinskikh i Lovozerskikh tundr. (In: Khibinskie apatity, 1933. t. 6, p. 95–99, tables.) Text in Russian. Title tr.: Rare elements in the Khibiny and Lovozerskaya tundras.

Industrial future of these regions is discussed in relation to the variety and complexity of the geochemistry of this great assemblage of rare earths. Most of chemical elements in the tundras are arranged in the Mendeleev table (p. 96), also in three separate groups: common elements of alkaline magmas; elements of alkaline agpaitic magma; and rare elements. Industrial value of these elements is indicated. Mineralogical distribution of the more useful elements is shown for: apatite, nepheline, titanomagnetite, titanite (sphene), lovchorrite, molybdenite, eudialyte, loparite, aegirin and pyrrhotite. For each, chemical composition, geochemical and technological characteristics are given.

Copy seen: DGS.

44882. FERSMAN, ALEKSANDR EVGEN'EVICH, 1883–1945, Editor. Za poliârnym krugom; raboty Akademii nauk na Kol'skom poluostrove za gody sovetskof vlasti, 1920–1932. Leningrad, Izd-vo Akademii nauk SSSR, 1932. 82 p. illus., tables, maps incl. 1 fold. (Akademiiā nauk SSSR. Trudy Soveta po izucheniiū proizvoditel'nykh sil Petrograficheskogo i Mineralogicheskogo institutov.) Text in Russian. Title tr.: Beyond the Arctic Circle; work of the Academy of Sciences on Kola Peninsula during the years of the Soviet rule, 1920–1932.

Symposium of papers by scientists who

participated in the Academy of Sciences' exploration of Kola Peninsula. The 15 papers are described in the Bibliography under their authors' names, viz. (titles tr.);

FERSMAN, A. E. Reclamation of Kola Peninsula and its resources.

KUPLETSKII, B. M. Historical out-

PEK, A. V. Investigation of the tectonics of the Khibiny massif.

LEVINSON-LESSING, F. ÎU. Cur-

rent problems of the Khibiny massif. GUTKOVA N. N. The mineralogy of Yukspor according to investigations in

1931-1932.

KRAVCHENKO, G. T. Mineralogy of the upper reaches of the Tul'ya River. KUPLETSKII B. M. Ultra-basic intrusions of Moncha Tundra.

VOROB'EVA, O. A. Geologic-petrographic exploration in Volch'va Tundra.

CHEBOTAREV, A. D. Materials for study of Losevyve and Sal'naya Tundras NW and W from the Moncha Tundra.

SUMGIN, M. I. Permafrost in Kola Peninsula.

LAVROVA, M. A. Quaternary deposits in the Zaimandra (i. e. other side of Lake Imandra) region.

POLONSKII, N. V. The study of

diatomites.

AVRORIN, N. A. Botanical investigations in the Khibiny Mountains.

FRIDOLIN, V. IU. Zoogeographic observations in the Khibiny Mountains in 1930-1932.

VOROB'EVA, O. A. The Khibiny Mountain Scientific Station of the Academy of Sciences.

Copy seen: SPRI; DLC (microfilm).

FERSMAN, ALEKSANDR EVGEN'-EVICH, 1883-1945, see also Khibinskie apatity, 1933. No. 45959.

44883. FESENKOV, VASILIĬ GRIG-OR'EVICH, 1889- . On the luminosity of nocturnal sky in different latitudes. (Akademifa nauk SSSR. Comptes rendus (Doklady), 1941. nouv. sér. v. 32, no. 5,

p. 320-22.)

Contains sky brightness measurements in northern latitudes from 44°-80°, based in part on writer's observations at Tikhaya Bukhta, Franz Joseph Land. Averages are given of observations made from Oct. 1940-Apr. 1941. They refer to a region of the sky near Polaris at about local midnight when the sun was more than 20° below the horizon and when there was no moon and no appreciable aurorae. A visual photometer was used with a radioactive luminous field. the field of view being about 5°.

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FETNER, ROBERT H., see Ingols, R. S., and R. H. Fetner. Sterilization of water by ozone . . . 1956. No. 45695.

44884. FETT, HARRY. Finnmarksviddens kunst, John Savio; en skisse fra besettelsestiden. (Sameliv. Samisk selskaps årbok 1951-1952, p. 62-82, illus.) Text in Norwegian. Title tr.: Finnmark art, John Savio; a sketch from the occupation.

Contains a survey, written during the German occupation 1940-45, of the appearance of Finnmark motifs in Norwegian, Lapp and foreign art from the 16th century onwards. One chapter is devoted to the Norwegian artist John Savio (1902-1938) who specialized in woodcuts depicting the life of the Lapps in Finnmark. Copy seen: DLC.

44885. FEYLING-HANSEN, ROLF W. Arktisk sommer. (Polarboken, 1956, p. 153-60.) Text in Norwegian. Title tr.: Arctic summer.

Describes a relief ship's journey in 1923 across the ice-filled sea east of Greenland. Conditions above 71° N. lat., ice, fog, etc., and pack-ice problems off points between bays with land stations are noted; also the vegetation and animal life along the coast. Copy seen: DLC.

44886. FEYLING-HANSEN, ROLF W. Foraminiferer og foraminiferforskning. (Naturen, Sept. 1950. Årg. 74, nr. 9, p. 271-79.) Text in Norwegian. Title tr.: Foraminifera and foraminifera research.

In a general discussion of foraminifera investigation, the collections of Quaternary material in Norway, in the Tromsø Museum among others, are suggested as worthy of study, p. 278-79, along with present-day collections from the whole Norwegian coast. Copy seen: DLC.

FIALA, ANTHONY, 1871-1950, see Explorers Club. Told . . . Explorers Club . . . 1931. No. 44832.

FIELD, THOMAS P., see Sanders, I. T. Societies around the world. 1956. No. 47782.

44887. FIELD, WILLIAM BRAD-HURST OSGOOD, 1904- . Some aspects of glaciers and glaciology. [Washington, D. C.] 1956. iii, 19 p. (In: U. S. Office of Naval Operations. The dynamic North, v. 1, no. 8.) 80 refs.

Contains a general review of the development of glaciology. The distribution, classification and behavior of glaciers are described; factors in accumulation and wastage, the climatic effect on glacier variations, glacial and post-glacial times, are discussed. Present developments in glaciology are outlined briefly, and the important effects the IGY will have on the science are noted.

Copy seen: DLC.

44888. FIGENSCHOU, L. Skogplanting på 71° nord. (Norsk skogbruk, June 1955. årg. 1, nr. 3, p. 82.) Ref. Text in Norwegian. *Title tr.:* Forest

planting at 71° N.

At Hammerfest, birch planted in 1946 are up to 8 m. in height. Sitka spruce, Siberian larch, and shrub fir planted in 1950 are also growing well. Plans are discussed for planting of birch and berry trees at Havøysund, where birch has grown in the past. Copy seen: DA.

4489. FILIN, V. I. Postroïka avtotraktornogo zimnika cherez splavinnoe boloto. (Avtomobil'nye dorogi, Sept. 1956. god 19, no. 9 (167) p. 13–14, diagr.) Text in Russian. Title tr.: Construction of an ice road for tractor trains over a floating marsh.

Describes how an ice road was gradually built by the freezing of water pumped over a floating peat bog. The frozen peat, ice-covered, withstood a tractor load of 85 tons in December, and up to

120 tons during March-May.

Copy seen: DLC.

FILIPENKO, A., see Moskvin, B., and A. Filipenko. K vershinam vulkanov . . . 1956. No. 46868.

44890. FILIP'EV, IVAN NIKOLAE-VICH, 1889–1937. Novyl volosatik Parachordodes barabashi Filipjev sp. n., (Nematomorpha) s ostrova Mednogo, Komandorskie ostrova. (Zoologicheskil zhurnal, Dec. 1956. t. 35, vyp. 12, p. 1906–1907, 2 illus.) Text in Russian. Summary in German (no. 12, Suppl. p. 13–14.) Title tr.: A new worm, Parachordodes barabashi Filipjev n. sp. (Nematomorpha) from Copper Island in the Commander Islands.

Describes this nematode found by I. I. Barabash on June 1932, under a stone in the tundra. The Russian description

was prepared by E. S. Kir'ı anova from the German diagnosis of the late author.

Copy seen: DLC.

44891. FILIPPI, BRUNO. Ipervitaminosi A e palatoschisi. (Minerva chirurgica, 1956. anno 11, no. 24, p. 1314–17, illus. tables.) Text in Italian. *Title tr.*: Hypervitaminosis A and cleft palate.

Account of experiments with white mice fed 60,000 I. U. of the vitamin per day during two periods of pregnancy. Feeding during the 11–13th day caused cleft palate in 88 percent of the embryos; feeding during the 14–16th day of pregnancy was followed by 100 percent incidence of the deformity.

Copy seen: DNLM.

44892. FILIPPI, PAOLO, and C. SAC-CON. L'intossicazione novocainica nell' animale in stato d'ipotermia mediante somministrazione endocarotidea del farmaco. (Minerva anestesiologica, July 1955, anno 21, no. 7, p. 166–70, tables.) 9 refs. Text in Italian. Summary in English. Title tr.: Novocaine intoxication induced in hypothermic animals by intracarotid administration of the drug.

In rabbits with induced cerebral hypothermia, the minimum lethal dose of novocaine injected into the carotid artery was increased by 15 percent. The protective action of hypothermia upon

the brain is discussed.

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44893. FILIPPI, PAOLO, and others. Studio sperimentale del comportamento del cuore durante l'intossicazione novocainica nell'animale in stato d'ipotermia. (Minerva anestesiologica, Sept. 1955. anno 21, no. 9, p. 219-25, illus., tables.) 7 refs. Text in Italian. Summary in English. Other authors: G. Migliorini and C. Saccon. Title tr.: Experimental study on the behavior of the heart during novocaine poisoning in hypothermic animals.

Account of experiments with rabbits, which indicate that hypothermia does not appreciably increase the minimum lethal novocaine dose affecting the heart, due to rapid intravenous injection. In animals with direct cerebral hypothermia, the heart is more resistant than in normal animals; and this resistance is the larger, the lower the rate of novocaine injection is. The probable physiology of these conditions is discussed.

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FILIPPI, PAOLO, see also Rivano, R., and others. L'attività procainesterasica . . . nell' animale . . . ipotermia. 1955. No. 47606.

44894. FILIPPOV, A. E. O dvizhenii srednego polûsa zemli. (Astronomicheskiî zhurnal, May-June 1956. t. 33, vyp. 3, p. 414–22, graphs, tables.) 13 refs. Text in Russian. Summary in English. *Title tr.:* The motion of the earth's

mean pole.

The reliability of present data on the secular motion of the earth's mean pole is discussed. Some peculiarities of its motion, derived from results of latitude observations do not represent its real displacement. Their cause should be sought in the nonpolar variations of the mean latitudes of the international stations. As there are only three stations, these variations lead to the unreliability of any results on the secular motion of the mean Therefore, at present, only coordinates, accounting for the periodic motion of the instantaneous pole, should be used.—From author's abstract,

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44895. FILIPPOV, N. Na dal'nikh okrainakh zemli sovetskoī. (Molodof kommunist, Dec. 1956. god 14, no. 12, p. 78–85.) Text in Russian. *Title tr.*: At the farthest limits of the Soviet land.

The town and province of Magadan are sketched by the editor of the newspaper Magadanskaia pravda: development of industry, factory output and flow of goods and materials from other parts of the U.S.S.R.; the town's modern housing and theater, transportation facilities, achievements of the workers, etc. The expected arrival from Moscow of 7500 komsomol boys and girls to work in Magadan Province is noted. Plans for geophysical explorations in the Verkhovanskiy and Cherskiy Ranges by the Magadan party of the Pacific Complex Expedition are mentioned as part of the International Geophysical Year program. Exaggerations in descriptions of Magadan in the Soviet press (e. g. in A. Semenov's article, No. 47890) are derided. Copy seen: DLC.

44896. FILIPPOVA, A. K. Vodopronifsaemost' merzlo'i lesno'i podstilki. (Leningrad. Gosudarstvennyf gidrologicheski'i institut. Trudy, 1956. vyp. 54 (108), p. 119–25, tables.) 15 refs. Text in Russian. *Title tr.:* The water permeability of frozen forest litter.

Water penetration through frozen litter

of various structures and compositions is discussed on the basis of special investigations in 1952-53 as well as published studies. Differences in the structure and moisture content of frozen litter were reflected in large variations in water permeability. Shallow freezing and high permeability were observed for frozen soil with water contents of less than 4 mm. in the upper 1 cm., since in such cases the percentage of ice-free pores reached 50-60 percent. Water contents of 4-7 mm. decreased the percentage of ice-free pores to 20 percent and permitted deeper freezing. Moisture-saturated litter froze deeply and was impervious to water.

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44897. FINDEISEN, HANS, 1903—. Der Adler als Kulturbringer im nordasiatischen Raum und in der amerikanischen Arktis. (Zeitschrift für Ethnologie, 1956. Bd. 81, Heft 1, p. 70–82.) 18 refs. Text in German. Title tr.: The eagle as culture bearer in the North Asian region and the American Arctic.

Discusses the primitive conception of animal-man relations and the role of the eagle in shamanism among the Yenisey Ostyaks (p. 74-75) and Alaskan Eskimos (p. 78-79). Myths are quoted and compared with the swan legends. The culture-bearing importance of the eagle and his human offspring is stressed.

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FINDLAY, A., see Bennett, R. E., and A. Findlay. Voyages to Churchill. 1956. No. 43959.

44898. FINDLAY, MARJORIE CRAVEN, 1926—. The means of improving the economic situation of the Ungava Bay Eskimos. A thesis presented to the Faculty of Graduate Studies and Research, McGill University, in partial fulfillment of the requirements for the degree of Doctor of Philosophy. Montreal, Nov. 1955. 296 p. 55 illus., 14 text maps, diagr., 7 tables (2 fold.). Mimeographed. Approx. 225 refs.

Based on field work, mainly in the Fort Chimo region May-Sept. 1954, also on observations in Greenland, Finland, and Iceland during 1947–1952. A study of the human ecology of these Eskimos, some 750 in number, to aid in their adaptation to changing conditions, in an area to be exploited for iron ores. The physical geography of the region, its historical background, and the Eskimos' present way of life are described. Almost all de-

pend in part on government relief, and most have had little contact or experience with white men. Principles of policy, and ways of improving conditions are suggested: mostly by developing produce for the coming white market. Introduction of sheep-farming, gardening, poultry-keeping, etc., is advocated, as well as development of fruit-gathering, fishing, the working of sealskin, wool and eiderdown, and boatbuilding. Appended is description of the economic situations of seven Eskimo families in the southern Ungava Bay region.

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FINE, JACOB, 1900—, see Frank, E. D., and others. Host resistance to bacteria in hemorrhagic shock, 4; effect of hypothermia . . . 1956. No. 44955.

FINE, JACOB, 1900—, see also Friedman, E. W., and others. Hypothermia in hemorrhagic shock. 1956. No. 44977.

FINELLI, J. P., see Nuttall, C. J., and J. P. Finelli. Vehicles in snow. 1955. No. 47117.

44899. FINLAND. LANDMÄTERI-STYRELSEN. Suomi. Finland. Yleiskartta. Generalkarta, 1:400,000. Viides painos. Femte upplagen. [Helsinki], 1950. 166 p. 124 col. maps. Text in Finnish and Swedish. Title tr.: Finland. General maps, 1:400,000. Fifth edition.

Fifth edition of atlas which first appeared in 1920 under title Suomen Karta över Finland. Contains four index maps at scale 1:2,000,000, 57 sectional maps at 1:400,000, and 63 town maps at various scales. The area north of the Arctic Circle is covered by 33 sectional maps. National and civil administrative boundaries, relief, lakes and rivers are shown, as well as main and village roads, footpaths and winter tracks, railroads, settlements, farms, mines, saw-mills, airports, and a town plan for Rovaniemi is given. Alphabetical index of place names is included.

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44900. FINLANDS NATUR. Onlanka-Juuma nationalparksfråga. (Its: Årsbok, 1955. årg. 14, p. 26.) Text in Swedish. Title tr.: The Oulanka-Juuma National Park question.

The problem of a national park and/or a power site in the Oulanka-Juuma region is being resolved by decision of a committee: to leave the Kitkajoki area, including Juuma, on the market for development, and to place the Oulanka area under state ownership, making it possible to develop the latter as a national park.

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44901. FINSKA MOSSKULTURFÖ-RENINGEN, Helsingfors. Berättelse över Finska mosskulturföreningens verksamhet år 1921; pt. 2, Föreningens verksamhet, section 5. Planerandet av försöksstationer i Savolaks och Nord-Finland. (Its: Årsbok, 1922. årg. 26, häfte 1, p. 24–27.) Text in Swedish. Title tr.: Report of the Finnish moss-culture association's activities, 1921; pt. 2, Association activities, section 5: plans for research stations in Savolaks and north Finland.

Discussion of preliminary plans, local interest, and economic value of establishing research stations in dissimilar geographic sections of the country.

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44902. FIRKET, H. Mesures cytophotométriques de la synthèse d'acides desoxyribonucléiques dans les cultures de tissus soumises au refroidissement, puis réchauffées. (Société de Biologie, Paris. Comptes rendus 1956. t. 150, no. 5, p. 1050-53, illus.) 4 refs. Text in French. Title tr.: Cytophotometric measurements of desoxyribonucleic-acid synthesis in tissue cultures submitted to cooling and rewarming.

Account of experiments with chickembryo fibroblasts and myoblasts exposed to 16°-20° C. and then returned to 37° C. DNA synthesis appeared to be completed about an hour before mitotic activity began; this synthesis lasted somewhat more than an hour.

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FISCHER, JOHANN EBERHARD, 1697–1771, see Herzog, R. Eine russische Handschrift . . . 1953. No. 45536.

44903. FISCHER, WILLIAM AUGUS-TINE, 1888- . Photogeologic mapping in Alaska. (*In:* Alaskan Science Conference . . . 1952. Proceedings, *pub.* 1954, p. 29–31.)

Plans for such mapping by Alaskan Branch, U. S. Geological Survey are noted. In northern Alaska reconnaissance maps at scale 1:96,000 now coverapprox. 50,000 sq. mi. This series is being recompiled at 1:250,000. Precise structure-contour maps of selected anti-

clines in Naval Petroleum Reserve no. 4 are also being made. Seven factors aff-feeting reliability of photogeologic maps in Alaska are noted. *Copy seen:* DGS.

44904. FISCHL, FRED B., 1921–, and others. Cold starting with V. I. improved multigrade oils. (SAE Transactions, 1956. v. 64, p. 608–620, diagrs., 15 tables.) Discussion p. 621–24. Other authors: H. H. Horowitz, and T. S. Tutwiler.

Low-temperature performance of test oils was obtained at  $0^{\circ}$ ,  $-10^{\circ}$ , and  $-20^{\circ}$ F. Significant differences were found in engine cranking speed for 10 W-30 oils formulated with different polymeric V. I. improvers. The viscosities of V. I. improved oils deviated very appreciably from ASTM extrapolated viscosities. This variation is due to differences in the low shear viscosities of the improved oils not predicted by the ASTM chart and also due to temporary viscosity loss. A new system is outlined for estimating viscosities of improved oils at low temperatures. Copy seen: DLC.

44905. FISH, PIERRE A. The cerebral fissures of the Atlantic walrus. (U. S. National Museum. Proceedings, Apr. 9, 1903. v. 26, no. 1325, p. 675–88, plates 28–29.) 7 refs.

Contains descriptions of two walrus brains obtained for the U. S. National Museum by R. Stein, in North Greenland in 1901. The fissural pattern of walrus resembles, in general, the typical arrangement in the brain of carnivorous animals (cat, dog and bear). The presylvian area is greater in length than the postsylvian.

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44906. FISHER, BERNARD, 1918—, and others. Some physiologic effects of short- and long-term hypothermia upon the liver. (Surgery, Nov. 1956. v. 40, no. 5, p. 862–73, illus., tables.) 15 refs. Other authors: E. J. Fedor, S. H. Lee, W. K. Weitzel, R. Selker and C. Russ.

Account of studies on dogs made hypothermic to 24°-22° for periods up to 12 hrs. Biliary secretion, O<sub>2</sub>-consumption of liver slices in vitro, composition of the liver and hepatic blood flow were investigated quantitatively. No irreversible changes in these four aspects were noted.

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FISHER, BERNARD, 1918—, see also Fedor, E. J., and others. Effect of hypothermia . . . induced bacteremia. 1956.

No. 44862.

FISHER, BERNARD, 1918—, see also Fedor, E. J., and others. Effect of hypothermia . . . induced bacteremia. 1956. No. 44863.

FISHER, BERNARD, 1918—, see also Fedor, E. J., and others. The effect of prolonged hypothermia . . . 1966. No. 44864.

44907. FISHER, COLEMAN C. Scientific studies on the Greenland Ice Cap. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953,

pub. 1954. p. 345-49, illus.)

The objectives, program, and methods used in glaciological, seismological, gravimetric, meteorological, and trafficability investigations made from July 9-Aug. 25 by Party Solo, composed of 15 men and traveling in seven weasels, are summarized; the results are evaluated; and recommendations for future work are made. The studies included: the near-surface and surface characteristics of snow (temperature, density, viscosity, permeability, and hardness); snow and ice stratigraphy, ablation, and accumulation; the effect of vehicle traffic on snow and the efficiency of sled-runner design; the velocity of seismic waves in snow and ice; development of seismic crevassedetection techniques; and weather as it affects glaciological, trafficability, and airnavigation conditions. One of the objectives of Party Solo was the determination of the feasibility, present and future, of the Thule Ramp to Mile 60 route; the other was the determination of the capability of the inland ice for the movement of heavy vehicles.

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FISHER, EDWIN RALPH, 1923–, see Fedor, E. J., and others. Effect of hypothermia . . . induced bacteremia. 1956. No. 44862.

FISHER, EDWIN RALPH, 1923—, see also Fedor, E. J., and others. Effect of hypothermia . . . induced bacteremia. 1956. No. 44863.

44908. FISKE, C. O. White-out, a polar weather phenomenon. (United States Naval Institute, *Annapolis*, *Md.* Proceedings, Sept. 1956. v. 82, no. 9, p. 954-59, illus.)

Contains discussion of the causes and effects of whiteout on the basis of experience gained during Operation Deepfreeze in the Antarctic. Possible countermeasures are proposed. Whiteout causes a complete loss of shadow and horizon

definition and a rapid decrease in depth perception and visual perspective. It is often accompanied by acute vertigo resulting in various degrees of nausea. The hazard of snow blindness is increased during whiteout since the light is intensified by reflection and re-reflection in all directions, and the normal "sixth sense," which warns of danger in the presence of obstructions, is lacking. Whiteout occurs when a uniform overcast exists over a completely snow-covered surface. It is most dangerous with a low ceiling (1,000-2,500 ft), a solid overcast, and a diffuse stratiform mist. The phenomenon results from ice crystal accumulation caused by sublimation over a uniform, freezing ice field, and is most pronounced over frozen water areas and over the polar icecap. Divergent views on whiteout are noted, also use of colored lenses. Copy seen: DLC.

4499. FITZGERALD, GERALD, 1898— . Why map Alaska. (*In*: Alaskan Science Conference . . . 1953. Proceedings, *pub*. 1956., p. 63.)

Full development of Alaskan land and sea resources depend on transportation and development of many new communities. Basic data in map form are necessary in early stages of such planning, and for military defense.

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44910. FITZGERALD, LAURENCE ROCKWELL, 1916—. Temperature coefficients for respiratory movements and oxygen consumption of newborn mice. (Physiological zoology, Apr. 1956. v. 29, no. 2, p. 147–53, illus., tables.) 11 refs.

A study of body temperature, respiratory rate and O<sub>2</sub>-consumption in mice less than 24 hrs. old, exposed to environmental temperatures of 0° to 34° C. Only respiratory movements within 15° to 30° followed the Arrhenius equation. At lower temperatures and in O<sub>2</sub>-consumption this equation proved not applicable. Copy seen: DLC.

44911. FITZPATRICK, E. A. An indurated soil horizon formed by permafrost. (Journal of soil science, July 1956. v. 7, no. 2, p. 248–54, 5 illus. on 3 plates.) 7 refs.

The origin and characteristics of very compact layers found in freely drained soils in Scotland and other humid temperate regions are described. Indurated layers of varying thickness are characteristic of past or present periglacial conditions in a large variety of soil groups, occurring in flat or irregular terrain and on slopes as steep as 40°, usually at a depth of 16-24 in. The upper surface of the layer is sharply defined, while the lower surface is diffuse. The structure is both massive and platy with spherical and vesicular pores and a sheath of fine material around the larger stones. The upper surface of this layer probably represents the lower limit of the active layer in permafrost, a view supported by the writer's observations in the Longyearbyen region of Vestspitsbergen in summer 1954, and by laboratory freezing of wet soil. The platy structure is due to gradual freezing under wet conditions, the massive structure to rapid freezing. The spherical and vesicular pores are caused by the freezing of soil water containing dissolved gases.—From SIPRE.

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44912. FIZKUL'TURA I SPORT.
Dreifuûshchafa stantsifa "Severnyi Polfûs
-6," 1956. (Fizkul'tura i sport, 1956, god
26, no. 12, p. 19, illus.) Text in Russian.
Title tr.: Drifting station "North
Pole-6."

Photo of a volley ball game at research station "North Pole-6."

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FJELD, PER, see Broch, H., and P. Fjeld. Bird-banding in Norway . . . 1954. No. 44136.

FLEISHMAN, M., see Haddy, F. J., and others. The effect of cold upon . . . vessel resistance. 1956. No. 45365.

44913. FLEMING, ARCHIBALD LANG, Bishop of the Arctic, 1883–1953. Archibald the Arctic. New York, Appleton-Century-Crofts [1956]. 399 p. 28 illus. map on lining-papers.

Autobiography of the Church of England's first Bishop of the Arctic. His early life in Scotland, and his work in Baffin Island 1909–1911, 1913–1915, and 1920 are described. He recounts his activities and travels in the Canadian Eastern and Western Arctic as Archdeacon, 1927–1933, and as Bishop 1933–1946, through which he became known as the "flying Bishop." The narrative includes account of life among the Eskimos, particularly on Baffin Island, their living conditions, customs, religion, etc.

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FLEMING, M. C., see Berryhill, F. M. and others. Stability . . . ration pack RPX-1. 1955. No. 44009.

44914. FLEMING, RICHARD HOW-ELL, 1909— . Recent advances in our knowledge of the oceanography of inshore waters. (*In*: Alaskan Science Conference . . 1953. Proceedings, *pub*. 1956, p. 77–83.) 15 refs.

Complex coastal waters have been studied in recent years by Canadian and American oceanographers. The literature resulting from field and laboratory investigations is reviewed. Current work in the Pacific Northwest by the Pacific Oceanographic Group, the Universities of Washington and British Columbia is noted.

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44915. FLINK, GUSTAF, 1849–1931. Über einige seltene Mineralien aus der Gegend von Langesund in Norwegen. CUpsala. Universitet. Mineralogisk-geologiska institut. Bulletin, 1898, pub. 1899. v. 4, pt. 1, no. 2, p. 16–27, plate.) Refs in text. Text in German. Title tr.: On several rare minerals from the region of Langesund in Norway.

Includes, with a crystallographic description of epididymite (p. 20), a reference to the author's recognition of this mineral, occurring similarly with eudidymite near Narsarssuak in southwest Greenland, on a journey there in summer of 1898 (i. e. 1897). Copy seen: DLC.

44916. FLINT, GEORGE MARSH, 1918 - Résumé of the geology and geomorphology of the islands of the Bering Sea. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1806–1807.)

Abstract of paper presented at the Seventh Alaskan Science Conference (AAAS), Juneau, Sept. 27–30, 1956. The islands lie in shallow waters of northeastern Bering Sea. Except for St. Lawrence and Nunivak with large masses of sedimentary rocks, the islands are predominantly volcanic. Volcanic activity on St. Lawrence and the Pribilofs probably continued to Recent time. Economic minerals are scarce and islands' striking geomorphic features may attract tourist trade. Copy seen: DGS.

44917. FLINT, RICHARD FOSTER, 1902– . New radiocarbon dates and late-Pleistocene stratigraphy. (American journal of science, May 1956. v. 254, no. 5, p. 265–87, sketch map, tables.)

From samples dated in the Yale Geochronometric Laboratory, the following, among others, are discussed (p. 279-82): the minimum date  $(6.730 \pm 200 \text{ yr.})$  for the latest glaciation of the region south of James Bay, based on a peat sample from a bog near Cochrane, northern Ontario; indications of local glaciation in Keewatin about 4,000 years ago between the middle segment of Back River and Rankin Inlet, based on peat samples from 66°10' N. 97°03' W. and 62°50' N. 92°12' W.; marine invasion of the Hudson Bay Lowland following deglaciation (date of 17,000 ± 370 yr. from shell sample from northern Ontario is considered too old to be acceptable); an interglacial interval  $5,870 \pm 100$  years ago in North Greenland. based on driftwood sample from Jørgen Brønlunds Fjord; also emergence during last 5,800 years in that region.

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44918. FLOHN, HERMANN. Atmospheric circulation in the polar regions. Translated from: "Die Zirkulation der Atmosphäre in den Polargebieten." Polarforschung, 3 (1): 58-64, 1951. Cambridge, Mass., American Meteorological Society, June 1954. 15 p. text chart, 2 tables. Mimeographed. 17 refs.

English translation, by David Kraus, of No. 21850, done for the Geophysics Research Division, Air Force Cambridge Research Center, under Contract AF 19 (604)–203. Copy seen: CaMAI.

FLOOK, D. R., see Banfield, A. W. F., and others. An aerial survey technique . . . big game. 1955. No. 43858.

44919. FLORIN, RUDOLF, 1894—. Förteckning å svenska nationalparker samt å fridlysta naturminnesmärken. Fjärde upplagen. Stockholm, 1938. 114 p. (Svenska vetenskapsakademien. Skrifter i naturskyddsärenden, nr. 34.) Text in Swedish. Title tr.: Inventory of Swedish national parks and protected natural objects. Fourth edition.

Localities and species subject to protection are listed with reference to laws establishing them and pertinent literature. Five national parks in the Arctic are included: Abisko, Stora Sjöfallet, Sarek, Vaddetjåkko, and Muddus, also several smaller localities, and certain floral and faunal species.

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FLORIN, RUDOLF, 1894—, see also Almquist, E., and R. Florin. Förteckning å svenska nationalparker . . . 1932. No. 43597.

44920. FLOVIK, KARL, and B. OP-SAHL. Forsøk med sortar og stammer av nepe 1947-1951. (Norway. Rådet for jordbrukforsøk. Melding, 1953. nr. 4, p. 121-42, 10 tables.) Also pub. in: Forskning og forsøk i landbruket, 1953, bd. 4, hefte 2, p. 121-42. 15 refs. Text in Norwegian. Summary in English. Title tr.: Trials with different varieties and strains of turnip 1947-1951.

Study of turnip growth, root and leaf weights, infection, rot, etc.; it was carried out at several plots on the Holt and Vågones experimental farms in northern Norway among other localities. Results are tabulated. Variance of dry matter yield proves a significant effect of location.

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44921. FLOVIK, KARL. Forsøk med ulike settedybder for poteter. (Forskning og forsøk i landbruket, 1950. bd. 1, hefte 1, p. 59–73, diagr., 8 tables.) Text in Norwegian. Summary in English. *Title tr.:* Trials with different depths of planting for potatoes.

Report from the experimental farm at Holt, near Tromsø in northern Norway, comparing results of planting potato sets at various depths. Results per unit area of number of plants, total yield of tubers, yield of marketable tubers, and dry matter weight and percent are tabulated. Soil and climate are considered influential in the results achieved.

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44922. FLUG, K. Udivitel'noe sosedstvo. (Vokrug sveta, May 1956, no. 5, p. 6, illus.) Text in Russian. *Title tr.:* Strange neighbors.

Note on symbiosis of wild geese with rough-legged hawks (*Buteo lagopus*), observed by the author during his geological explorations in Bol'shezemel'skaya Tundra.

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44923. FLUKE, CHARLES LEWIS, 1891-, and H. V. WEEMS, Jr. The Myoleptini of the Americas. Diptera, Syrphidae. New York, 1956. 23 p. 33 illus. (American Museum of Natural History, New York. American Museum Novitates, No. 1758.)

Keys to the genera, and to the species of the genera Myolepta and Leiota, are followed by account of 215 species of

this sub-family, three of them new: synonyms, descriptions, critical notes and data on distribution. *L. cyanea* captured at Palmer, Alaska (R. H. Washburn, May 27, 1950) is included.

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44924. FLYGARE, N. Silfvergrottan. (Svenska turistföreningen, Stockholm. Årsskrift, 1901, p. 363-74, illus.) Text in Swedish. *Title tr.:* The silver grotto.

A grotto near Lilla Sjöfallet is described, where according to legend, a wealthy Lapp had hidden his silver. The outlook, one of the best in the region, is outlined. Copy seen: DGS.

**44925.** FLYING SAFETY. Slick sticks. (Flying safety, Oct. 1954. v. 10, no. 10, p. 26-27, illus.)

Contains description of operations of ski-equipped aircraft. The prime factors are the effect of wind on the plane while maneuvering on the surface; the type of snow to be encountered; the ability to interpret snow conditions properly while still aloft. Directions are given for landing, parking, and take-off for single and multi-engine planes.

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**44926.** FLYING SAFETY. Stranded Cheechako. (Flying safety, Oct. 1954. v. 10, no. 10, p. 18–24, illus.)

Contains description of arctic survival methods for pilots. Procedures used after crash landing, including the care of wounded, erection of shelters, and proper clothing are outlined. The construction of sun glass substitutes and improvised stoves using blubber or aviation gas is described. Food sources and travel are briefly discussed.

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44927. FLYING SAFETY. World wide weather. (Flying safety, Oct. 1954. v. 10, no. 10, p. 1–7, illus.)

Contains description of typical weather conditions during fall and winter as encountered by pilots flying in the U. S., Alaska, Greenland, and other areas.

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44928. FÖYN, ERNST, and others. The radioactivity of seawater. Göteborg, Elander, 1939. 44 p. tables. (Göteborgs kungl. vetenskaps och vitterhetssamhälle. Handlingar, 5 följden, ser. B. bd. 6, no. 12.) 23 refs. Other authors: B. Karlik, H. Pettersson, and E. Rona.

The methods and results of measurements of the uranium, radium, and thorium content of seawater at a number of stations are discussed. Uranium measurements were made at latitudes from 45°-73° N., radium from 55°-58° N. and thorium from 55°-58° N. The results indicate that the radium present in these northern waters is less than ½0 of what has been previously assumed. A remarkable scarcity of thorium was also noted with only an upper limit of the amount present being determined.

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FØYN, SVEN, see Norsk geologisk tidsskrift. Second Nordic Geologic...meeting...1956. No. 47080.

FOFONOFF, N. P., see Canada. Joint Committee on Oceanography. Annual reports...1955-56. 1956. No. 44266.

44929. FOG-POULSEN, MOGENS. Epidemiske sygdomme i Grønland 1952. (Ugeskrift for laeger, 1954. årg. 116, no. 31, p. 1145-50, tables.) Text in Danish. *Title tr.*: Epidemic diseases in Greenland, 1952.

Report on 26 epidemic diseases of that year, their occurrence according to months, age, sex and localities, and comparisons with the two preceeding years. Information is also supplied on the spread and course of the epidemics; their nature, complications, etc. A special section deals with tuberculosis, early condition in the area, incidence, control and therapy.

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44930. FOG-POULSEN, MOGENS. Lungetuberkulosen i Umanak distrikt, Grønland. (Ugeskrift for laeger 1951. årg. 113, no. 37, p. 1236–39, illus., tables.) 9 refs. Text in Danish. Summary in English. *Title tr.:* Pulmonary tuberculosis in the Umanak District.

Contains information on the District and its population; earlier investigations on tuberculosis in the area, and the results of author's study conducted Oct. 1947-July 1948 and comprising 1,390 persons. Clinical, bacteriological and radiological examinations showed the presence of nearly all varieties of lung tuberculosis; data are presented on the incidence of the various stages. The superiority of radiography in diagnosis is stressed.

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44931: FOGH, IVAR F. Journey in Scandinavia. Montreal, Canadian-Scandinavian Foundation, [1955?]. 35 p. 34 illus

Report on a three-month visit to

Sweden, Finland, and Norway by the author, chief logging engineer of the Canadian International Paper Co., in summer 1953. Forests, and forest industries, administration, conservation and schools are described, with emphasis on Sweden. Includes description of conditions in northern Sweden (p. 17–20, 29), the sawmills, sulphite and sulphate mills, transport costs and methods, cutting operations, portable 8- or 12-man camps, mechanization, forest conditions, the Lapland spruce. Copy seen: CaMAI.

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44932. FOLINSBEE, ROBERT ED-WARD, 1917—. Archean monazite in beach concentrates, Yellow-knife geologic province, Northwest Territories, Canada. (Royal Society of Canada. Transactions, 1955. Third ser., v. 49, sec. 4, p. 7–24, 3 illus., graphs, 2 tables.) 49 refs.

Contains results of a study of two sands from esker-derived beach placers in the northern part of the Lac de Gras map-area (64°15′-65° N. 110°-112° W.), one a monazite-bearing sand from Yamba Lake (65° N. 111°30' W.), the other a monazite-free sand from Exeter Lake (64°45' N. 110°45' W.). Bedrock and glacial geology of the map-area are briefly described. Magnetite, ilmenite, and almandite garnet are the dominant minerals of the monazite-bearing concentrate; 17 other heavy minerals are identified and described. "The injection gneiss or migmatite, source of the monazite, has been assigned to the Archean (2,200-2,400 million yrs.) on the basis of field relations confirmed by potassium-argon and other age-dating methods. The relation of the gneiss to other rocks of the Yellowknife continental nucleus has been established." Copy seen: DGS.

FOLLETT, W. I., see Hubbs, C. L., and W. I. Follett. Lamna ditropis, new species . . . 1947. No. 45628.

FOLSE, ROLAND, see Otis, A. B., and others. Pulmonary gas exchange in hypothermia. 1956. No. 47214.

44933. FOLSOM, JUSTUS WATSON, 1871-1932. North American collembolous insects of the subfamilies Achorutinae, Neanurinae, and Podurinae. (U. S. National Museum Proceedings, May 31, 1916. v. 50, no. 2134, p. 477-525, plates 7-25.) 117 refs.

Contains a synopsis of subfamilies, keys to the genera and species, and descriptions of 39 species, of which 13 are new. Achorutes viaticus (Greenland), A. armatus (Greenland), Anurida amorita (Kukak Bay, Alaska), A. granaria (Greenland) and Neanura ornata (Sitka, Alaska), are included.

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FONES, T. H., see Mardoian, F. M., and others. How to winterize construction equipment. 1956. No. 46617.

FONOROW, B., see Bates, C. C., and B. Fonorow. Ice observations . . . 1956. No. 43904.

44934. FONSELIUS, STIG, and others. Carbon dioxide variations in the atmosphere. (Tellus, May 1956. v. 8, no. 2, p. 176-83, diagrs., tables, text maps.) 30 refs. Other authors: F. Koroleff and K. E. Wärme.

A scatter diagram of mean values obtained in Scandinavia from 1800-1955 is presented, and monthly and seasonal for 1955 are graphed. The possibility of using these values as a method of synoptic weather analysis is discussed and illustrated. There is some indication that an increase in atmospheric carbon dioxide has occurred since 1935. However, this may be only a short-term fluctuation in the climate. Generally, values are highest in winter and reach minimum values in summer and fall. Measurements will be continued, and new ones are planned for Spitsbergen during the International Geophysical Year.

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44935. FONTAINE, MARION. The planktonic copepods (Calanoida, Cyclopoida, Monstrilloida) of Ungava Bay, with special reference to the biology of Pseudocalanis minutus and Calanus finmarchicus. (Canada. Fisheries Research Board. Journal, 1955. v. 12, p. 858–98, illus., tables.) About 75 refs.

A study based on midsummer collections 1947, 1949 and 1950 of the Calanus in the Ungava Bay and central Hudson Strait. Twenty-two species were found and their distribution determined; four are new for the American side of the North Atlantic. Investigations on the development and life cycle of two most common species, Calanus finmarchicus and Pseudocalanus minutus, are reported as well as more limited observations on the life histories of two other species. Breeding time and development did not show a uniform trend in the various species. Copy seen: DI.

FONYÓDI, SARALTA, see Hársing, L., and others. Hypothermia hatása . . . 1956. No. 45458.

44936. FORCHER-MAYR, O. Der Föhn als medizinisches Problem. (Wiener medizinische Wochenschrift, 1956. Jahrg. 106, no. 9, p. 212–20, tables.) Refs in text. Text in German. *Title tr.:* The foehn as a medical problem.

Contains an extensive review and discussion of the problem, with information on earlier studies in the German-speaking areas; effects on the human organism (according to various authorities) including pathological effects and effects in various diseases; tests for objective verification of widespread symptoms; analysis and discussion of these tests; microclimatic factors; routes of attack on the human body; systems affected; human types of reaction to the foehn therapy of adverse effects; electric-wave theories of pathological foehn effects; weather and health statistics; etc.

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44937. FORMOZOV, ALEKSANDR NIKOLAEVICH. Sledy zhivotnykh i metod "tropleniû" pri izuchenii nazemnykh pozvonochnykh. (In: Obruchev, S. V. Spravochnik puteshestvennika, t. 2, 1950, p. 536-52, illus.) 10 refs. Text in Russian. Title tr.: Animal tracks and methods of tracking terrestrial vertebrates.

Discusses importance of systematic tracking of animals, birds and other fauna with illus. of tracks on snow or sand, including such of reindeer, ptarmigan, squirrel, snow hare. Discovery of reindeer antlers is noted (p. 540) on Vrangel and Uyedineniya Islands and on Franz Joseph Land, where these animals have never been seen.

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44938. FORMOZOV, ALEKSANDR NIKOLAEVICH. Vlifanie defatel'nosti zhivotnykh na formirovanie zemnof poverkhnosti i pochvoobrazovanie. (In: Obruchev, S. V. Spravochnik puteshestvennika, t. 2, 1950, p. 553–56, illus.) 16 refs. Text in Russian. Title tr.: Effects of animal activity on formation of the earth's surface and soils.

Damage to the soil from animals' holes, dens, burrows, trails, etc., and their destruction of vegetation by grazing and gnawing are discussed; the arctic fox and muskrats are mentioned (p. 554) among others.

\*Copy seen: DLC.\*

FORREST, LINN A., see Garfield, V. E., and L. A. Forrest. The wolf and the raven. 1948. No. 45037.

44939. FORSDYKE, A. G. Depressions crossing Labrador and the St. Lawrence basin. London, H. M. Stationery Office, 1955. 44 p. text charts, graphs, 3 tables. Great Britain. Meteorological Office. Professional notes, no. 113.) 5 refs.

"Depressions crossing eastern N. America [approx. 40°-60° N. 50°-80° W.] may either move on eastward or turn north or northwest and stagnate; the latter are influenced by Greenland. The two types occur in spells of a few days to a week, and tend to be associated with characteristic hemispherical upper flow patterns. The stagnating depressions are associated with slow troughs of large amplitude, but the characteristic pattern is often not reached until nearly the end of the spell and is not a useful indication for medium range forecasting. In most cases the surface and upper patterns evolve together. Differences in development of individual depressions may depend on details of the thermal structure. The paper is illustrated by numerous 500 mb and surface hemisphere charts."-Meteorological abstracts & bibliography, Jan. 1956. v. 7, no. 1, p. 120.

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44940. FORSSLUND, KARL HERMAN, 1900–. Nattsländor: Trichoptera. (*In:* Sjöstedt, Y. Insektfaunan inom Abisko nationalpark, III, pub. in Svenska vetenskapsakademien. Skrifter i naturskyddsärenden, 1931. nr. 18, p. 46–55.) Text in Swedish. *Title tr.:* Caddis flies: Trichoptera.

Eight families of Trichoptera are represented in this collection from arctic Sweden. Of the four species found in larger streams, Stenophylax impar is known from northern Fennoscandia east to northern Siberia. From minor streams the forms differed, in some cases abnormal, probable sterile specimens. Still waters, especially swampy areas, were rich in this fauna. Identification is discussed; 44 species are listed; location, habitat, collector and date are cited. Geography of the order cannot yet be established.

Copy seen: DLC.

44941. FORSSLUND, KARL HERMAN, 1900 - . Schwedische Oribatei (Acari), III. (Entomologisk tidskrift, 1956. Årg. 77, häfte 2-4, p. 210-18, 12 illus.) 9 refs. Text in German. Title tr.: Swedish Oribatei (Acari) III.

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Contains descriptions of five mites with ecological and distributional data. Three of the species are new, among them: Phthiracarus tardus n. sp. recorded in Kårsovaggejokk in Torne Lappmark, Sweden. Pts. I-II do not contain arctic material.

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FORSSLUND, KARL HERMAN, 1900–, see also Bengtsson, S. F. Dagsländor: Ephemeroptera, 1931. No. 43955.

FORSSLUND, KARL HERMAN, 1900–, see also Bengtsson, S. F. Sjösländor: Plecoptera. 1931. No. 43957.

FORSSLUND, KARL HERMAN, 1900–, see also Edwards, F. W. Myggor: Nematocera. 1931. No. 44730.

FORSSLUND, KARL HERMAN, 1900– , see also Jensen-Haarup, A. C., and H. Lindberg. Halvvingar: Hemiptera .1931. No. 45790.

FORSSLUND, KARL HERMAN, 1900-, see also Ringdahl, O. Flugor: Diptera . . . 1931. No. 47592.

FORSSLUND, KARL HERMAN, 1900 , see also Sellnick, M., and K. H. Forsslund. Die Camisiidae Schwedens . . . 1956. No. 47886.

FORSSLUND, KARL HERMAN, 1900– , see also Tjeder, B. Nätvingar: Neuroptera. 1931. No. 48417.

44942. FORWARD, CHARLES N. Sea ice conditions along the Hudson Bay Route. (Geographical bulletin, 1956. no. 8, p. 22–50, 16 text maps.) 12 refs. Summary in French.

Based on Canadian Ice Distribution Survey data in the Geographical Branch, summary for Hudson Bay and Strait, Ungava Bay. Bathymetry, water movements and properties, and climate of the area are described; also distribution and origin of sea ice and glacier ice (icebergs and growlers). Ice conditions Jan. through Apr. and for each month thereafter are considered, with maps showing limits of main ice areas in average years, most favorable and least favorable years, on 13 selected days during July 1-Nov. Variability of ice conditions from year to year and the influences of temperature and wind are discussed. Navigation season (minimum marine insurance rates), at present July 23-Oct. 10, could be extended if aerial reconnaissance provided more definite information on conditions in early July and if growth of shore ice at Churchill and other points could be controlled in the fall. **Copy seen:** DGS.

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44943. FOSTER, CHARLES R., and S. J. KNIGHT. A review of soil and snow trafficability. (In: U. S. Office of Ordnance Research. Interservice Vehicle Mobility Symposium, 18-20 Apr. 1955. v. 2, Papers, p. 1-9, 5 illus., diagrs.)

The research program of the Waterways Experiment Station on this problem is outlined. Trafficability is defined as the ability of a soil or snow to permit the movement of a vehicle. This ability may be measured directly by running vehicles over the medium; or indirectly by the use of aerial photographs or by study of the effect of meteorological parameters on the moisture content and thus strength of a soil. Snow trafficability studies were begun in Greenland in the summer of 1954 and brief tests have been conducted at Fort Churchill, Houghton, Mich., and Kapuskasing, Ontario. Data are still too limited on snow for valid conclusions. Copy seen: DLC.

FOSTER, GLENN L., see Bartlett, R. G., and others. Gross muscular activity . . . temperature regulation . . . restrained rat. 1956. No. 43892.

44944. FOSTER, J. B. The phenacomys vole in eastern Canada. (Ontario field biologist, May 1956. no. 10, p. 18–22, illus.) 5 refs.

Results of a study of the life history and ecology of *Phenacomys ungava*, carried out in the vicinity of Fort Chimo, Quebec, in 1953 and Fort Churchill, northern Manitoba, in 1954. Scrubby vegetation, with willow usually predominating, is the typical habitat of this vole; the nests of shredded paper, moss or plant fiber are few inches below the surface; willow, bearberry and blueberry are usually stored in burrows.

Copy seen: MH-Z.

44945. FOTIADI, É. É. Opyt sostavlenifâ skhemy stratigraficheskikh sootnoshenif dokembriiskikh porod Russkof 
platformy i Urala. (Akademifâ nauk 
SSSR. Doklady, Aug. 21, 1956. t. 109, 
no. 6, p. 1194–96, fold. table.) 26 refs. 
Text in Russian. Title tr.: An attempt 
to work out a scheme of stratigraphic 
relations between the Precambrian rocks 
of the Russian platform and the Urals. 
Study of these rocks which form the

folded basement of the region. They include the so-called "Baltic Shield" (Fennoscandia and Kola Peninsula) and the Ural Mountains with Timan Ridge and Kanin Peninsula. They may be divided into two main groups: supercrust or effusive-sedimentary rocks, and magmatic rocks. The stratigraphic structure of the region is reviewed, upward, as (1) lower Archean rocks: various gneisses and crystalline schist; (2) upper Archean: granite, migmatite, magnetic quartz, etc.; (3) lower Proterozoic: various supercrust rocks, as schist, quartzite, dolomite, sandstone, etc.; (4) upper Proterozoic: metamorphic terrigenous formations; viz. quartzite, schist, sandstone, etc.; and (5) earlier middle and lower Paleozoic: metamorphic and sedimentary rock for-Scheme of detailed subdivisions and rock structure is included (fold. table). Copy seen: DLC.

44946. FOURNELLE, HAROLD JOHN, 1909— . Experience with the laboratory diagnosis of enteric diseases in Alaska. (American journal of medical technology, Dec. 1956. v. 22, no. 6a, p. 36–43.) 10 refs.

Account of laboratory findings in the survey made by the Arctic Health Research Center among the Eskimo population of the lower Kuskokwim River, southwestern Alaska. Diarrheal problems were effected by two types of Shigella flexneri, with children of ten years and less mostly affected. Salmonella typhosa was isolated in a few instances. In parasitic infections Endamoeba coli and Diphyllobotrium sp. were most numerous.

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44947. FOURNELLE, HAROLD JOHN, 1909— . Studies of changes in sewage held at low temperatures. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 74–75.)

Account of bacterial counts of sludge samples holding temperatures of -13°, -17° and -21° C. supplemented by counts of such sludge kept (and examined) up to six months at subzero temperature). The greatest reduction was during the first 24 hrs. with Gram-negatives mostly affected.

\*\*Copy seen: DGS.\*\*

44948. FRADKIN, M. M. Petrograficheskii sostav valunov na severe Zapadno-Sibirskoi nizmennosti. (Akademiia nauk SSSR. Komissia po izuchenin chetvertichnogo perioda. Būlleten', 1946. no. 8, p. 82-94, illus., diagr., map.) Text in Russian. Summary in English. *Title tr.:* Petrographic composition of boulders in the northern part of the West

Siberian plain.

Result of a route survey carried out in 1936-37 from Surgut (61°15' N. 73°23' E.) on the middle Ob', up the Torm-Yaun (i. e. Trom-Yugan, 62°55' N. 72°50' E.) and down the Nadym River to Ob' Bay. Moraines and the other glacial deposits were investigated; petrographic characteristics and mineralogical composition of 27 samples of boulders and rocks are noted. It is concluded that "the relief in the basin of the Nadym River is younger than that of the Surgut region. The petrographic composition of the boulders in the Nadym terminal and main moraines also differs from that of the boulders of the maximum glaciation in the Surgut region." Copy seen: DLC.

44949. FRÄNKL, ERDHART. Some general remarks on the Caledonian mountain chain of East Greenland. København, C. A. Reitzel, 1956. 43 p. text map, diagrs., section, tables. (Meddelelser om Grønland. bd. 103, nr. 11.) 61 refs.

Report originally intended to accompany geologic map (not published) prepared by the author in 1953 from investigations during the Danish East Expeditions, Greenland 1948-1953. Three main structural elements occur in East and North Greenland: East Greenland geosyncline from approx. Kejser Franz Josephs Fjord north to Danmarks Fjord (73°-81°30' N.); North Greenland geosyncline across northernmost Greenland from about 20°-60° W.; the Hagen Fjord geanticline between the two geosynclines. Stratigraphy and tectonics of these belts are discussed on the basis of pre-Caledonian, Caledonian (Ordovician-Devonian), and post-Caledonian (Carboniferous-Quaternary) periods. Geological data strongly favor the formation of the "Scandic" (Greenland) Sea by gradual subsidence, progressing from north to south, of a block between Scandinavia and Greenland. Copy seen: DGS.

FRANCE. SERVICE DE LA MÉTÉOR-OLOGIE NATIONALE, see Bedel, B. Les observations météorologiques . . . 1949-51. 1954. No. 44028.

44950. FRANCE. SERVICE HYDRO-GRAPHIQUE. Côtes de Norvège et U. R. S. S., de la Presqu'île de Stadt au Détroit de Bering. Mers de Norvège, de Barentsz, Mer Blanche et Océan Arctique. Paris, Imprimerie Nationale, 1955. 438 p., charts (3 fold.), tables. (Its: Instructions nautiques, série E (V), no. 331.) Text in French. Title tr.: Coasts of Norway and U. S. S. R., from Stadland Peninsula to Bering Strait. Norwegian and Barents Seas, White Sea and Arctic Ocean. (Its: Sailing directions).

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Contains introductory section on the geography, meteorology, oceanography; ice terminology, conditions, and navigation; routes, lighthouses, fog signals; general information on Norwegian and Soviet geography, buoys, pilots, communications, fishing grounds; rules for ships escorted by Soviet icebreakers. Succeeding chapters describe local features, conditions, etc., and present sailing directions as follows:

Chap. 3 (p. 135–54). Sklinden

(Sklinna) to Fugløfjord.

Chap. 4 (p. 155-68). Fugløfjord to Ofotfjord.

Chap. 5 (p. 169-218). Ofotfjord to Nordkap. Chap. 6 (p. 219-36). Nordkap to the

Norway-U. S. S. R. border.

Chap. 7 (p. 237-76). U. S. S. R. border to Mys Svyatoy Nos.

Chap. 8 (p. 277-354). Mys Svyatoy Nos to Mys Kanin Nos (Beloye More). Chap. 9 (p. 355-89). Arctic coast: Northern Sea Route to Bering Strait. Appendices: Table of ports, with depths and equipment; list of signal, weather and rescue stations; U. S. S. R. polar stations listed by seas, west to east (Barents, Kara, Laptev, etc.); Norwegian-French, Russian-French vocabulary. Extensive alphabetical index to place names (p. 409-438).

Copy seen: DN-HO.

44951. FRANCE. SERVICE HYDRO-GRAPHIQUE. Islande et Faeröe, Jan Mayen, Svalbard-Groenland: Côte Est. Paris, Imprimerie Nationale, 1950. 377 p., illus., charts (2 fold.), tables. (Its: Instructions nautiques. série E (IV), no. 437) Supplement no. 2, 1955. 13 p. Text in French. Title tr.: Iceland and Faeroes, Jan Mayen, Svalbard-Greenland: East Coast. (Its: Sailing directions.)

Contains introductory section on meteorology, oceanography; ice types, conditions, terminology, navigation; routes; geographic and general information on Iceland, Faeroes, Svalbard, Jan Mayen and Greenland. Succeeding chapters describe local features, conditions, etc., and offer sailing directions, viz.:

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Chap. 6 (p. 235-40). Jan Mayen. Chap. 7 (p. 241-92). Svalbard: Bjørn-

øya, Vestspitsbergen, Barentsøya, Edgeøya, Kong Karls Land, Nordaustlandet. Chap. 8. Greenland (East Coast): Kong Frederik den VIs Kyst, Kong Christian den IXs Land, Kong Christian den Xs Land, Dove Bugt and Germania to Peary Land. Appendices: Signal stations; list of ports with depths and equipment; climatic tables for Jan Mayen, Angmagssalik (E. Greenland), and Grønfjorden (Vestspitsbergen), and five localities in Greenland Sea-Denmark brief vocabularies, Icelandic-French, Faeroese-French, Eskimo-French. Alphabetical place name index (p. 345-77). Copy seen: DN-HO.

44952. FRANCE. SERVICE HYDRO-GRAPHIQUE. Japon et Sibérie, côtes Est: y compris la mer intérieure du Japon et les archipels et îles détachées dans le S. W., le sud et le N. E. du Japon. Océan Pacifique, Mers d'Okhotsk et de Bering. Paris, Imprimerie Nationale, 701 p., charts (3 fold.), tables. (Its: Instructions nautiques. Série K (I), no. 450.) Text in French. Title tr.: Japan and Siberia, east coasts: comprising the Interior Sea of Japan and the archipelagoes and isolated islands to the southwest, south, and northeast of Japan. Pacific Ocean, Okhotsk and Bering Seas. (Its: Sailing directions.)

Contains introductory section on geography, meteorology (climate tables for the Sea of Okhotsk and town of Anadyr, 64°45′ N. 177°32′ E.; ice terminology, conditions, navigation; Soviet regulations for ships escorted by ice-breakers; oceanography; navigation and routes; information on Japanese and Soviet geography, ports, buoys, pilots, rescue services, signals, communications. Succeeding chapters present information on local features, conditions, etc., and sailing directions, including:

Chap. 10 (p. 571-63). Eastern Siberia: Sea of Okhotsk, southwest coast of Kamchatka, Bering Sea (to Mys Dezhneva). Appendices: Signal stations; list of ports with depths and equipment; Japanese-French, Russian-French vocabularies. Alphabetical index of place names (p. 651-701).

Copy seen: DN-HO.

44953. FRANCE. SERVICE HYDRO-GRAPHIQUE. Labrador-Détroit de Davis et Baie d'Hudson. Paris, Imprimerie Nationale, 1951. 310 p., illus, charts (2 fold.), tables. (Its: Instructions nautiques. Série G (I), no. 441.) Supplement no. 2, 1955. 12 p. Text in French. Title tr.: Labrador-Davis Strait and Hudson Bay. (Its: Sailing directions.)

Contains introductory section on meteorology, oceanography; ice terminology, conditions, and navigation; navigation and routes; historical and geographical notes on Labrador, West Greenland, Baffin, and Hudson Bay region. Succeeding chapters describe local features, conditions, etc., and offer sailing directions as follows:

Chap. 1 (p. 67-144). East coast of Labrador, Cape St. Lewis to Port Holton. Chap. 2 (p. 145-200). Northeast coast of Labrador, Port Holton to Cape

Chidley.

Chap. 3 (p. 201-242). Davis Straitwest coast of Greenland to Upernavik, east coast of Baffin to Clyde River.

Chap. 4 (p. 243–88). Hudson Bay and Strait. Cape Chidley-Whale River-Cape Prince of Wales-northeast entrance to Hudson Bay; north coast of Hudson Strait, islands to west of Hudson Strait, islands in northern Hudson Bay; Cape Fullerton-Churchill-Nelson River-James Bay; east coast of Hudson Bay.

Alphabetical index of place names (p. 289-310). Copy seen: DN-HO.

**44954. FRANCINE, JOCK.** On the trail of Albanel. (Beaver, Autumn 1956. Outfit 287, p. 42–49, illus., text map.)

Popular account of author's trip by canoe (with outboard motor) from Quebec City via the St. Lawrence-Saguenay-Mistassini-Rupert River route to Rupert House on the southeast shore of James Bay, then across the lower end of the Bay to Moosonee and Moose Factory. He followed the route taken by Paul Denis, Sieur de St. Simon, and a Jesuit priest, Father Albanel in 1671.

Copy seen: DLC.

44955. FRANK, EDWARD D., and others. Host resistance to bacteria in hemorrhagic shock, 4; effect of hypothermia on clearance of intravenously injected bacteria. (Society for Experimental Biology and Medicine. Proceedings, Feb. 1956. v. 91, no. 2, p. 188-89, table.) 4 refs. Other authors: D. Davidoff, E. W. Friedman and J. Fine.

Dogs made hypothermic to 28° C. and subsequently put into hemorrhagic shock were protected "to a considerable degree" against *E. coli*. At normal body temperature the anti-bacterial defenses were severely impaired by hemorrhagic shock.

In previous parts of this study, low

temperature is not a factor.

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44956. FRANKE, H., and J. SCHRÖ-DER. Über synchrone strömungscalorimetrische Messungen im Rectum and an der Hautoberfläche. (Klinische Wochenschrift, Sept. 1955. Jahrg. 33, Heft 35-36, p. 833-38, illus.) 28 refs. Text in German. Title tr.: On synchronous stream-calorimetric measurements in the rectum and on the skin surface.

Contains description of a new rectal stream-calorimeter and a set which enables it to function synchronously with Hensel's skin calorimeter. The practical application of the apparatus in diagnostic and other problems, is demonstrated.

Copy seen: DNLM.

44957. FRANZEN, DOROTHEA SU-SANNA, 1912- . Types of mollusks described by F. C. Baker, part I, University of Illinois. (Nautilus, July 1956. v. 70, no. 1, p. 21–27.)

Lists 36 holotypes and paratypes of species and subspecies of Gastropoda and five of Pelecypoda, described by the late F. C. Baker and deposited in the Museum of Natural History of the University of Illinois at Urbana. The names of the types are precisely as in the type descriptions and no synonymy is included; locality data and names of collectors are also given. Gyraulus hornensis (type locality: Horn River, Mackenzie District) is included.

Copy seen: DSI.

44958. FRASER, CHARLES Mc-LEAN, 1872–1946. Some Greenland hydroids. (Washington Academy of Sciences. Journal, Dec. 15, 1933. v. 23,

no. 12, p. 563-66).

Contains a list of 22 species collected by Capt. R. A. Bartlett, during trips to Greenland and Baffin Island, 1925–32, in Clavering Fiord (74°20′ N. 21° W.) East Greenland, in Smith Sound off Cape Alexander (78°15′ N. 75° W.), and in Foxe Basin (66°46′ N. 79°15′ W.). Their distribution in other northern regions is tabulated.

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44959. FRASER, J. KEITH. Physiographic notes on features in the Macken-

zie delta area. (Canadian geographer, 1956. no. 8, p. 18-23, 7 illus.) Ref.

iDescribes knobby hills and ridges formed by slide debris (or glacial deposits); silt cover on a remnant snowbank; and three pingo-like features. Theories on their origin are suggested. They were observed at the foot of Black Mt. (Mt. Goodenough) on the edge of the Richardson Mts., about 20 mi. south of Aklavik in summer 1954 during the relocation survey.

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44960. FRASER, J. KEITH. Physiographic notes on features in the Mackenzie delta area. Abstract. (Canadian geographer, 1956. no. 7, p. 20.)

"Evidence is presented to show that a group of knobby hills on coalescing alluvial fans along the Richardson Mountains is landslide debris rather than glacial deposit. Associated with the debris are pingo-like features and lenses of groundice. A heavy layer of silt over remnant snowbanks is attributed to wind deposition."

Copy seen: DLC.

FREDENUCCI, R., see Malmejac, J., and others. Influence . . . hypothermie encéphalique . . . pression artérielle . . . 1956. No. 46586.

44961. FRÉDÉRIC, J. Recherches sur le comportement du chondriome dans des cultures de fibroblastes maintenues à température subnormale. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 5, p. 1053–56.) 9 refs. Text in French. Title tr.: Investigations on the behavior of the chondriome of fibroblast cultures maintained at subnormal temperatures.

Chick-embryo fibroblasts and myoblasts kept at temperatures of 1°, 5°, 10° and 18° C. showed first a slowing in the movement of the chondriosomes, then a change from filamentous to short and finally globular forms. These modifications appeared only after several hours of cold exposure.

\*\*Copy seen: DNLM.\*\*

FREDERICK, WILLIAM H., see Thomas, H. D., and others. The effects . . . hypothermia ballistocardiogram . . . . dog. 1956. No. 48369.

44962. FREDERIKSEN, SVEND, 1906. Aspects of European influence inWest-Greenlandic poetry. Washington, D. C., 1955. 15 p. (Catholic University of America. Contribution of the Arctic Institute, nr. A 2) "Reprinted from Edda, nr. 4, 1955." Similar to paper listed as No. 21910. Copy seen: CaMAI.

44963. FREDHOLM, K. A. Jordstöt i Pajala socken den 4 nov. 1883. (Geologiska föreningen, Stockholm. Förhandlingar, 1884. bd. 7, häfte 1, no. 85, p. 39.) Text in Swedish. Title tr.: Earth tremor in Pajala parish, Nov. 4, 1883.

Report of an earthquake felt in the communities of Lautakaski, Junosuando, and Kangas in the western part of Pajala parish. Copy seen: DGS.

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44964. FREDHOLM, K. A. Morängrus på skiktade grusaflagringar i Norrbotten. (Geologiska föreningen, Stockholm. Förhandlingar, 1885. bd. 7, häfte 12, no. 96, p. 673-77, diagr.) Text in Swedish. Title tr.: Moraine gravel in layered deposits in Norrbotten.

Observation and interpretation of glacial deposits in a well shaft at Lule leads to recognition that Norrbotten glacial gravels are generally layered. The significance of this condition is suggested.

Copy seen: DGS.

FREEDMAN, N. J., see Löve, D., and N. J. Freedman. A plant collection from SW Yukon. 1956. No. 46428.

FREEMAN, HUGH AVERY, 44965. 1912 - New Hesperioidea, with notes on some others from the United States; Lepidoptera, Rhopalocera. (Entomological news, Mar. 1943. v. 54, no. 3, p. 72-77.)

Includes (p. 73-74) systematic notes on Erynnis persius avinoffi native to Alaska and northern Canada. Copy seen: DA.

44966. FREGLY, MELVIN JAMES, 1925 - Relationship between ambient temperature and the spontaneous running activity of normal and hypertensive rats. (American journal of physiology, Nov. 1956. v. 187, no. 2, p. 297–301, illus.)

At constant daily illumination, falling environmental temperature increased the running activity of both normal and hypertensive rats; this activity was, however, higher in the normal rats when temperatures dropped to 20°, 15° and 10° C., suggesting that hypertension tends to limit increased activity normally observed in cold environment.

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FREGLY, MELVIN JAMES, 1925see also Iampietro, P. F., and others.

Maintenance of body temperature . . . rats . . . 1956. No. 45678.

FREGLY, MELVIN JAMES, 1925- , see also Iampietro, P. F., and others. Rates of cooling rats . . . cold. No. 45677.

44967. FREIBERG, E. Na Komandorskikh ostrovakh. (Okhotnich'i prostory, 1956, kniga 6, p. 244-46, illus.) Text in Russian. Title tr.: On the Commander Islands.

Observations during author's boat trip with Aleut fishers off the Commander Islands; abundance of fish, method of fishing, catching an octopus, herd of killer whales, etc.

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FRENKIN, A. V strane vechnykh l'dov. (Fizkul'tura i sport, 1956. god 26, no. 12, p. 29.) Text in Russian. Title tr.: In the land of eternal ice.

Describes sport in Greenland: soccer (introduced about 1700 by English whalers), skiing (school in Godthaab), gymnastics, and "pindetrek" (a kind of tug-of-war with stick). Number of sportsmen, difficulties presented by climate, lack of training personnel, etc., support by the Danish Sports Union are Copy seen: DLC. noted.

44969. FREUCHEN. PETER. 1957. Fremdeles frimodig. København, Gyldendal, 1955. 236 p. (Erindringer v. 2) Text in Danish. Title tr.: Still frank. (Recollections, v. 2.)

Second part of an autobiography covering Freuchen's life as factor at Thule, the Fifth Thule Expedition to Canada in 1921-24, his life in Denmark as farmer, journalist and author, and extensive travels in Europe and North America lecturing and film-making. Details of a long journey in arctic Russia in 1937 are given. During the occupation of Denmark during World War II, Freuchen was captured by the Germans but fled to Sweden and afterwards settled in the United States.

The first part of this autobiography, I al frimodighed (In all frankness), København, Gyldendal, 1953, deals with Freuchen's childhood and youth and his life to the Fifth Thule Expedition (copy at MnU). English version Vagrant Viking (No. 29107) covers the period of both Danish volumes. Copy seen: DLC.

FREUCHEN, PETER, 1886-44970. Lemminger til Vestgrønland? (Atuagagdliutit: Grønlandsposten, June

28, 1956. Ukiut 96-1at, nr. 13, p. 19.) Text in Danish. *Title tr.:* Lemmings for West Greenland?

Advocates the introduction of lemmings south of the Humboldt Glacier (79°30′ N. 62°30′ W.) where they have not so far penetrated, to increase food supply for the fox population. Copy seen: DLC.

44971. FREUCHEN, PETER, 1886–1957. Rensdyrkongen fra Alaska. (Atuagagdliutit: Grønlandsposten, Nov. 11, 1954. Ukiut 94-iat, nr. 22, p. 5-6.) Text in Danish. *Title tr.:* The reindeer king from Alaska.

Notes on reindeer breeding based on a conversation with Carl Lomen, former reindeer industrialist. Reindeer husbandry is now run on a cooperative basis in Alaska, the herds owned by the community. The reindeer population, now reduced, is estimated at about 40,000 animals.

\*Copy seen: DLC.

FREUCHEN, PETER, 1886-1957, see also Bogen om Knud . . . 1945. No. 44073.

FREY, RICHARD, 1886—, see Poppius, R. B., and others. Dipteren . . . Sarekgebiet. 1917. No. 47424.

44972. FRIDOLIN, VLADIMIR ÎUL'E-VICH. Novye dannye i materialy po biofæenotike zhivotnogo i rastitel'nogo mira Khibinskogo rafona po nablûdeniám letom 1933. (In: Khibinskie apatity, 1933. t. 6, p. 257-62.) Text in Russian. Title tr.: New data and materials on the biocenosis of fauna and flora of the Khibiny region from observations in the summer of 1933.

Studies were made toward clarification of the faunal composition (dipters, butter-flies, beetles, etc.) also on the ecological characteristics of fauna in alpine regions, mountain tundras (ants and terrestrial molluscs). Observations were made on the phenology of fauna and flora, also the transmigration of active and passive fauna via rising air current. Problems in biocenosis were investigated particularly for the alpine-arctic groups.

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44973. FRIDOLIN, VLADIMIR ÎÜL'E-VICH. Zoogeograficheskie nablûdenifa v Khibinskikh gorakh, 1930–1932. (*In:* Fersman, A. E. Za polfarnym krugom, 1932. p. 73–78.) 5 refs. Text in Russian. *Title tr.:* Zoogeographic observations in the Khibiny Mountains, 1930– 1932. Reports on studies of insects, birds, small mammals, fishes and their parasites, including ecological and phenological observations, carried out by the Zoogeographical party of the Academy of Sciences' Kola Expedition. During 1930-32, the author made 230 scientific trips in the area; study of mosquitoes (Aedes) and gnats (Simulium) is noted.

Copy seen: SPRI; DLC (microfilm).

44974. FRIÐRIKSSON, ÁRNI. The Icelandic north coast herring in 1954. (International Council for the Exploration of the Sea. Annales biologiques, 1954, pub. 1956. v. 11, p. 114–18, illus., tables, map.)

Contains data on catches and their utilization, size distribution, age distribution among the different tribes in the waters north of Iceland; relative number of fish in each tribe; vertebral counts in

the four different tribes, etc.

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44975. FRIÐRIKSSON, ÁRNI. Saithe, Icelandic stock. (International Council for the Exploration of the Sea. Annales biologiques, 1954, pub. 1956. v. 11, p. 103-104, illus. tables.)

Contains data on catches off the north coast of Iceland since 1950 as compared with those of herring; age and size composition, overfishing, maturation and Copy seen: DI.

44976. FRIEDENSBURG, FERDINAND, 1886—. Die Bergwirtschaft der Erde; Bodenschätze, Bergbau und Mineralienversorgung der einzelnen Länder. 5th ed. Stuttgart, Ferdinand Enke, 1956. xvi, 562 p., illus., text maps, tables. Approx. 1,000 refs. Text in German. Title tr.: The mining economy of the earth; natural resources, mining, and mineral supply of the individual countries.

Includes statements and statistics for northern Canada (p. 73-86), Finland (p. 176-79), Greenland (p. 207), Norway (p. 321-27), Sweden (p. 360-67), U. S. S. R. (p. 371-405), Svalbard (p. 415-416), and United States including Alaska (p. 471-504).

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44977. FRIEDMAN, EDWARD W., and others. Hypothermia in hemorrhagic shock. (American journal of physiology, June 1956. v. 185, no. 3, p. 521–27, tables.) 19 refs. Other authors: D. Davidoff and J. Fine.

Cooling dogs to 28° C. prior to provoking a standard shock reaction, pro-

longed the times of tolerance to hypotension and of survival after transfusion, but did not prevent death. However, this protective effect of cooling was not forthcoming if applied after the induction of shock. An antibiotic given at time of transfusion to hypothermic dogs caused a recovery, but was ineffective in normothermic controls. Thus precooling appears to sustain the antibacterial defense in hemorrhagic shock, which otherwise disintegrates rapidly.

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FRIEDMAN, EDWARD W., see Frank, E. D., and others. Host resistance to bacteria in hemorrhagic shock, 4; effect of hypothermia . . . 1956. No. 44955.

44978. FRIEDRICH, ADOLF, 1914–1956, and G. BUDDRUSS. Schamanengeschichten aus Sibirien; aus dem Russischen übersetzt und eingeleitet von Adolf Friedrich und Georg Buddruss. München-Planegg, O. W. Barth-Verlag, 1955. 327 p. illus. (Weisheitsbücher der Menschheit.) 29 refs. Text in German. Title tr.: Shaman tales from Siberia; translated from the Russian with an introduction by A. Friedrich and G. Buddruss.

A translation of Yakut, Buryat, and Tungus legends collected by G. V. Ksenofontov (No. 9388), Yakut folklore by A. A. Popov (No. 13729), and L. Lesnaâ. Introductory essays describe the religion, cosmogeny, magic rites and beliefs, animism, shamanism, etc., mainly of the Yakuts. The epic and poetic style of the myths and legends, the use of drums and musical accompaniment in their rendering by shaman story-tellers, etc., are discussed. Copy seen: DLC.

44979. FRISTRUP, BØRGE. Klimatologische Untersuchungen im nördlichen Teil Grönlands. (Polarforschung, 1954, pub. 1956. Jahrg. 24, Bd. 3, Heft 1-2, p. 314-15.) Text in German. Title tr.: Climatological investigations in the northern part of Greenland.

Contains summary of author's report, previously listed as No. 21967.

Copy seen: DLC.

44980. FRISTRUP, BØRGE. Peary Land. (Naturens verden, 1951. Årg. 35, p. 19-33, 9 illus.) Text in Danish. Title tr.: Peary Land.

Exploration of Peary Land, northern Greenland, is reviewed from its first sighting by Lockwood on the Lady Franklin Bay Expedition, 1881-1884. The first detailed scientific investigations. made in 1948-1950 by an eight-man party under Eigil Knuth, the Danish Pearvland Expedition, are summarized. Description is given of the region: area. elevation, the geology, glaciation hydrography, climate, flora and fauna and Eskimo occupance. In the dry continental climate, evaporation is an important factor in ice and snow removal. The summer snowline lies at 1,200 m. elevation. Cryoconite effects are noted. More than 300 plant forms were collected, some new to Greenland; they included 90 varieties of vascular plants, 120 varieties of mosses, lichens, etc. Eskimo campsites, tools, and equipment are commonly found in Peary Land.

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FRISTRUP, BØRGE, see also Kühn, A. Hocharktische Wüsten. 1956. No. 46150.

44981. FRITZ, MADELEINE AL-BERTA, 1896-, and R. H. WAINES. Stromatoporoids from the Upper Abitibi River limestone. (Geological Association of Canada. Proceedings, Nov. 1956. v. 8, pt. 1, p. 87-126, 14 tables.) 36 refs.

Systematic description is offered of 14 species (12 new) of this extinct group of hydrozoans (?). Study was based on material collected by the senior author and assistants during 1950–1952 from reefoid limestones of the Upper Abitibi River formation (Middle Devonian) outcropping on the Abitibi River near Coral Rapids, in the James Bay Lowland of northern Ontario (approx. 50°30′ N. 81°30′ W.). The genus Syringostroma is the most abundantly represented.

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FROBESE, ALFRED S., see Stone, H. H., and others. The effect of lowered body temperature on the cerebral hemodynamics . . . 1956. No. 48216.

44982. FRÖDIN, JOHN OTTO HEN-RIK, 1879- . Skogar och myrar i norra Sverige i deras funktioner som betesmark och slåtter. Oslo, Aschehoug; Cambridge, Mass., Harvard University Press, 1952. 216 p. diagrs., illus., tables. (Instituttet sammenlignende kulturforskning. for [Publikationer] Serie B; skrifter 46.) Title tr.: Text in Swedish. 80 refs. Woodlands and swamps in northern Sweden in their function as pasturelands and meadows.

Introduction of domestic animals into

northern Sweden from the south forced development of summer pastures and meadows where winter fodder could be harvested. Useful plant species in the forests and swamps were determined from experience and means of improving their productivity developed. Competition with the Lapps for the land and reduction of reindeer winter forage are discussed and exemplified. Characteristics of the environment, plant ecology, and control of undesired species are dealt with in detail. Regulation of growth in swamps by water regulation (both flooding and drainage), opening up of forest lands by cutting and burning, provision of plant nutrients by land management, and crop rotation have been adapted to local conditions. Plant species are identified by scientific names throughout and plant associations are related to regulation of their environment in abundant examples. Copy seen: DLC.

44983. FRÖLING, NILS. Pältsastugan, Sveriges nordligaste turiststuga. (Svenska turistföreningen, Stockholm. Årsskrift, 1949. p. 355–57, text map.) Text in Swedish. *Title tr.:* Pältsastugan, Sweden's northernmost tourist hut.

Brief description of the northernmost tip of Sweden, with some regional orientation. Travel thither is usually via Kiruna, Abisko, and Torneträsk; but this tourist hut can now be reached by a short journey from the international highway between Karesuando in Finland and Skibotn on the north Norway coast. The interior of northern Norway is also accessible from the west.

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44984. FROESE, GERD, and A. C. BURTON. Heat losses from human head in the cold. (Federation proceedings. Mar. 1956. v. 15, no. 1, pt. 1, p. 69.)

Calculations and measurements on three subjects indicate excessive heat losses from the head in the cold. Observations also suggest that there is no detectable peripheral constriction in the head during cold exposure which seems to favor keeping brain temperature normal. Copy seen: DLC.

44985. FRØSHAUG, JOHN. Mean results of geomagnetic observations in Tromsø, Norway, for the years 1930–50. (Journal of geophysical research, Sept. 1956. v. 61, no. 3, p. 435–44, diagrs., 2 tables.)

Variations in the earth's magnetic field

over short and long time-intervals are tabulated and graphed for this station, located at 69°39'.8 N. 18°56'.9 E. The geomagnetic latitude is 67°.1.

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44986. FROHBERG, H., and others. Vergleichende Tiefkühlversuche mit dem Brown-Pearce-Tumor des Kaninchens, dem Jensen-Sarkom der Ratte, dem Ehrlich-Carcinom der Maus und dem Yoshida-Sarkom der Ratte. (Zeitschrift für Krebsforschung, Sept. 1955. Bd. 60, Heft 5, p. 546-52, illus., tables.) 16 refs. Text in German. Other authors: E. Matthies and G. Benad. Title tr.: Comparative experiments in deep hypothermia with the Brown-Pearce tumor of the rabbit, the Jensen sarcoma of the rat. the Ehrlich carcinoma of the mouse and the Yoshida sarcoma of the rat.

Only the Brown-Pearce tumor showed a diminution of viability proportional to the duration of exposure to  $-30^{\circ}$  C. The Ehrlich carcinoma proved most coldresistant, chilled cultures showing the same growth rates as not-treated ones, and survival time increasing with decrease of cooling temperature; however, cooled homogenates of this carcinoma did not develop tumors when implanted.

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44987. FROHNE, WILLIAM CAR-RINGTON, 1908- . The biology of northern mosquitoes. (U. S. Public Health Service. Public health reports, June 1956. v. 71, no. 6, p. 616-62.)

Account of general correlations of life cycle, cold-tolerant stages, and geographic distribution among Alaskan mosquitoes; also correlation of habitat with type of cycle, and of species with habitat. It is noted that no Alaskan species breeds normally in artificial container (e. g. tin cans), in tree holes or other small collections of water.

\*\*Copy seen: DNLM.\*\*

44988. FROHNE, WILLIAM CAR-RINGTON, 1908- Mosquito distribution in Alaska with especial reference to a new type of life cycle. (*In:* Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 171-77.) 6 refs.

Account of a general comparative investigation of arctic, subarctic and temperate-zone mosquitoes. In Alaska only two types of life cycles were found in mosquitoes, both adaptations to cold climate, and both single brooded. Differences between mosquitoes of the various

climatic zones include length of biting season, which is less than a month in arctic, about four months in subarctic, and over five months in temperate Alaska. Copy seen: DGS.

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44989. FROLOV, A. M. Mery obespechenifa ustoIchivosti zemlfanykh mass i sooruzhenif. Moskva, Gosud. Transportnoe zheleznodorozhnoe izd-vo, 1949, 1952. 2 v.: 364, 320 p., illus., tables, diagrs., 80 refs. Text in Russian. Title tr.: Measures providing stability of earth masses and construction.

Textbook approved by the Main Administration on Education of the Ministry of Ways and Means Communications for the High Technical Schools.

Various problems in deformation of earth masses and construction are discussed, with analysis of the causes of disruption in their stability. Measures are described for preventing the appearance and development of deformation. Effects of temperature variation, especially freezing of ground water are analyzed (v. 1, p. 106-109; v. 2, p. 79). Physical and mathematical formulations of landslide problems are outlined (v. 1, p. 140-47). Stability of road and railroad construction on marshland and specific methods of reinforcing the ground are discussed in detail (v. 2, p. 80-106). The measures for prevention of swelling, naleds and similar deformations appearing periodically in connection with freezing and thawing of the ground are described. Character, height, form and level of ground swelling are outlined (v. 2, p. 156-88) and consequences indicated.

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FROLOV, VÎACHESLAV VASIL'EVICH, see Laktionov, A. F., and V. V. Frolov. Na dreifuûshchikh l'dakh. 1955. No. 46218.

44990. FROMMEL, E., and others. De l'influence des substances neuroplégiques, de la Noradrénaline et du Phenergan sur la regulation thermique. (Helvetica chirurgica acta, Dec. 1955. v. 22, fasc. 6, p. 494-503, table.) 12 refs. Text in French. Summary in English. Other authors: C. Radouco-Thomas and F. Vallette. Title tr.: The inffuence of neuroplegic substances, of noradrenalin and phenergan on thermoregulation.

Account of experiments with guinea pigs treated with these substances singly or in combination with each other. It is concluded that a "combination of neuro-

plegic, ganglioplegic and adrenolytic substances only rarely provides a mathematical resultant on thermal regulation;" it is assumed that this also holds for the respiratory and vasomotor apparatus. The implications for human medicine are discussed.

\*\*Copy seen: DNLM.\*\*

44991. FROMMEL, E., and F. VAL-LETTE. De la sensibilité des centres nerveux à la cholinergie; nitrocholine, prostigmine, atropine et regulation thermique. (Archives internationales de pharmacodynamie et de therapie, 1956. v. 104, fasc. 3-4, p. 445-52, illus.) 11 refs. Text in French. Summary in English. Title tr.: The sensitivity of nerve centers to cholinergy; nitrocholine, prostigmine, atropine and thermoregulation.

The centers of thermoregulation in the guinea pig were found to be sensitive to cholinergic action: nitrocholine reduced the normal and inoculation-fever temperature of atropinized animals. The belladonna alcaloids appear to neutralize the centrifugal cholinergic action only.

\*Copy seen: DNLM.\*

44992. FRONDEL, CLIFFORD, 1907—, and others. X-ray powder data for uranium and thorium minerals. Washington, D. C., U. S. Govt. Print. Off., 1956. p. 91–153, tables. (U. S. Geological Survey. Bulletin 1036–G. A contribution to geochemistry.) 38 refs. Other authors: D. Riska and J. W. Frondel.

"X-ray powder spacing data are given for 67 uranium and thorium minerals. The spacing data and line intensities are given for each mineral and also in the form of a determinative table based on the three most intense lines for each mineral arranged in order of decreasing spacing."—Authors' abstract. Includes (p. 117) data on johannite (Cu(UO<sub>2</sub>)<sub>2</sub>(SO<sub>4</sub>)<sub>2</sub> (OH)<sub>2</sub>.6H<sub>2</sub>O) from Great Bear Lake, Mackenzie District. Copy seen: DGS.

FRONDEL, JUDITH (WEISS), 1912–, see Frondel, C., and others. X-ray powder data . . . uranium . . . 1956. No. 44992.

44993. FROST, ROBERT E., and others. Comprehensive report investigation of airfield construction in arctic and sub-arctic regions. Appendix 3, summary and statement of technique [on] aerial photographic reconnaissance investigation frozen soils in the Territory of Alaska. Lafayette, Ind., Purdue University, Engineering Experiment Station,

May 1947; 1st rev., Jan. 1948; 2d rev., May 1948. 6 p.l., 98, 6 l., 45 photos. 71 refs. *Other authors*: J. E. Hittle, and K. B. Woods.

"An account is given of the progress concerning one phase of the use of aerial photographs in the investigation of airfield construction in arctic and subarctic regions. Data were obtained from field investigations conducted during the 1945, 1946, and part of the 1947 summer field season at various locations in Alaska and are summarized by correlating the observations with airphoto patterns of the same areas. The natural setting, location, geology, soil texture ranges, native vegetation, and permafrost conditions in the vicinities of Fairbanks, Big Delta, Tanana valley, Kougarok, and Northway are described. Repeated field checks showed that similar patterns in aerial photographs indicate similar materials and that airphotos can be used to identify soil and rock textures, to bound areas of similar materials, to select better construction sites, and to identify and locate materials for engineering construction."-SIPRE. Copy seen: AMAU.

44994. "FROST-BITES ANONY-MOUS". Wind-chill factor. (RCEME quarterly, Apr. 1952. v. 4, no. 2, p. 20–21, illus., diagr.)

Contains a popular account of the effect of wind on sensible temperature. This factor, determined by temperature and wind velocity, is graphed. A wind-chill factor of 1400-1500 is considered dangerous. The factor is reported to have reached 2800 during Exercise Sundog 1 in the Fort Churchill area.

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4495. FROSTERUS, BENJAMIN, 1866– . Den finländska avdelningens årsmöte. (Nordisk jordbrugsforskning, 1924. Aarg. 6, hefte 1, p. 217–19.) Text in Swedish. *Title tr.:* The Finnish division's annual meeting.

Report is made to the effect that, of the eight natural geomorphic regions of Finland, one covers the entire North. Agricultural research pertinent to each region should be located within it.

Copy seen: DA.

FROTHINGHAM, R., see Explorers Club. Told . . . Explorers Club . . . tales . . . 1931. No. 44832.

44996. FRY, ERIC. Sea supply of the arctic weather stations. (Canadian sur-

veyor, Dec. 1955. v. 12, no. 10, p. 645-48, illus.)

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Problems encountered in resupply by sea of the joint U. S.-Canadian weather stations in the Canadian Arctic Islands are described briefly. Mould Bay on Prince Patrick and Isachsen on Ellef Ringes have never been supplied by ship. Supplies for these stations are landed by ship at Resolute Bay and then transferred by air. Ice-breakers receive cargo by transfer at Resolute or Thule for transporting to stations at Eureka and Alert on Ellesmere Island. Copy seen: DLC.

4497. FUCHS, ALFRED. Preparation of plastic replicas and thin sections of snow. Wilmette, Ill., Nov. 1956. iv, 6 p. diagrs. (U. S. Army. Corps of Engineers. Snow Ice and Permafrost Research Establishment. Technical report 41.) 3 refs.

Formulas and details are given for making plastic replicas of snow samples for petrofabric studies utilizing Formvar. The work is generally performed at about —10° C., and replicas may be coated with a second clear film of plexiglas to improve durability. A technique is also described for filling the pores in snow samples for thin-section analysis without changing the snow structure.

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44998. FUHRMAN, FREDERICK ALEXANDER, 1915—. Changes in cellular metabolism following experimental cold injury. (In: Conference on Cold Injury. 4th, Nov. 7-9, 1955, Princeton, N. J. Transactions, pub. 1956, p. 153-72, illus., tables.) 15 refs.

Account of investigations on O<sub>2</sub>-consumption and glycolysis of cold exposed rat skin; in vitro preparations as well as material from frozen feet were utilized. The effects of supercooling and freezing were examined and compared, also the effects of rapid rewarming, high salt-concentration, previous burn or coldinjury.

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44999. FUHRMAN, FREDERICK AL-EXANDER, 1915—. Oxygen consumption of mammalian tissues at reduced temperatures. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 50-51, illus.) 6 refs.

A discussion of  $Q_{10}$  of oxygen consumption by various tissues of the rat. The range investigated was ca.  $0^{\circ}$  to  $37^{\circ}$  C.

and there was no interference with O2-delivery over this range.

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45000. FUKUTOMI, TAKAHARU. Study of sea ice: the 19th report. Relation between the beginning date of freezing and air temperature at the coasts of the Sea of Okhotsk, the Japanese Sea, and the arctic sea. (Teion-kagaku, Low temperature science, Sapporo, 1953. Ser. A, Physical sciences, v. 11, p. 87-94, 3 graphs, table.) 9 refs. Text in Japanese. Summary in English.

This relation was studied to test the theoretical equation developed earlier (cf. No. 34795). The equation was found to be satisfactory as a first approximation. The time interval between the calculated date at which the decreasing air temperature reaches the freezing point of sea water and the observed date of commencement of freezing lies in the range of  $16\pm 6$  days, being variable with the mean depth of the coastal water mass and with the wind velocity.—from English summary. Previous reports have been listed as No. 29157–29159, 34795.

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45001. FUKUTOMI, TAKAHARU. Study of sea ice: the 20th report. A study on the formation of sea ice at the surface of the deep sea. (Teion-kagaku, Low temperature science, Sapporo, 1953. Ser. A, Physical sciences, v. 11, p. 95–106, diagr., 2 tables.) 6 refs. Text in Japanese. Summary in English.

"The additional effect of heat flow from lower levels on the time of beginning of freezing in the Okhotsk Sea is discussed. The effect of the heat flow is negligible in the northern half of the Sea but is moderately large in the southern half. The time between the date at which the air temperature reaches the freezing point of sea water and the date of the beginning of freezing, and the maximum ice thickness are given for N. lat. as follows: 22 days and 130 cm. at 60°; 25 days and 115 cm. at 55°; 31 days and 87 cm. at 50°; and 43 days and 45 cm. at 45°."-SIPRE. Adds to information given in the 4th report (Arctic Bibliography, No. 34795).

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45002. FUKUTOMI, TAKAHARU, and others. Study of sea ice: the 21st report. A report on the survey of ice on the Okhotsk Sea coast of Hokkaido. (Teion-kagaku, Low temperature science, Sapporo, 1954. Ser. A, Physical sciences,

v. 13, p. 59-103, 40 illus. on 20 plates, diagrs., graphs, 13 tables.) 14 refs. Text in Japanese. Summary in English. Other authors: K. Kusunoki and T. Tabata.

Investigation of sea ice conditions conducted since 1942 is described. Observational data on temperature variation and distribution within and on ice and water are given in tables and graphs. Data include salinity, density, mechanical properties and other characteristics of ice and water. Report is illustrated with 40 photographs of typical ice formations.

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45003. FUKUTOMI, TAKAHARU, and K. KUSUNOKI. Temperature distribution in fresh-water iceplate with cyclic variation of atmospheric temperature. Sea ice studies no. 7, Institute of Low Temperature Science, Hokkaido University. Ottawa, 1956. 7 p. graphs. (Canada. Defence Research Board. Defence Scientific Information Service. Translation T 55 (7) J.) Translated from Teion kagaku, Series 3 (1947), p. 187-192, by E. R. Hope.

Contains theoretical determination of temperature distribution in any layer of a sheet of ice of finite thickness formed on the surface of fresh water subjected to atmospheric temperature fluctuations. The results are applied to the case of ice plates 40 cm. and 100 cm. thick.

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45004. FUNKE, A. Mesures de la radiation solaire à Abisko pendant l'été 1914. Nyköping, 1921. 17 p. graph, tables. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, bd. 1, no. 3.) Text in French. *Title tr.:* Measurements of the solar radiation at Abisko during the summer 1914.

Measurements were made with an Ångström pyrheliometer, July 1-Aug. 22. Data are tabulated together with cloud cover and visibility. The effects of the height of the sun, cloud cover, and water vapor on radiation intensity are briefly considered.

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45005. FURON, RAYMOND. Si les glaciers fondaient. (Géographia, May 1956. no. 56, p. 2-5, col. illus., sketch map, table.) Ref. Text in French. Title tr.: If the glaciers should melt.

Popular account of the rise in sea level to be expected if the Greenland and Antarctic icecaps should melt, effects on Europe; evidence of recent climatic warming in Greenland, Svalbard, Alaska, Iceland, Norway, and the Southern Hemisphere; evidence of slight rise in sea level since 1885. *Copy seen:* DGS.

45006. FURUNES, JON. Om årsikkerheten av vår kveitedyrkning i Salten distriktet. (Forskning og forsøk i landbruket, 1954. bd. 5, hefte 5, p. 363-72, diagr., table.) 4 refs. Text in Norwegian. Summary in English. *Title* tr.: Yearly reliability of spring wheat in the district of Salten.

Results of trials with variety, Sibir, at Vågønes experiment station near Bodø in Nordland, northern Norway, are used as indicator of the dependability of spring wheat in the Salten district. Chances of grain of satisfactory quality are no more than 60 percent with best suited varieties at present.

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45007. G., G. En färd öfver de lappländska järnmalmsfälten. (Svenska turistföreningen, Stockholm. Årsskrift, 1894. p. 114–20.) Text in Swedish. *Title tr.:* A journey over the Lapland iron ore district.

Description of Gällivare, and of the view from a nearby peak, Gällivare-dundret, of the iron-mining activities at Malmberget, at that time all on the surface; Kebnekaise is noted in the distance, also the valleys of Kalix and Torne Rivers.

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**45008.** G., L. W. The Canadian Snow Survey; its purpose, history, and future development. (Building research in Canada, Dec. 1955. v. 2, no. 2, p. 52-54, text map.)

Notes study initiated in 1946 by the Associate Committee on Soil and Snow Mechanics, National Research Council of Canada. Snow tests are conducted: measurements and/or photographs taken to elucidate problems in performance of vehicles, skis, snow-clearance equipment etc. Tentative snow classification was prepared in 1949. Both sheltered and exposed stations are used, among them: Goose Bay, Moosonee, Churchill, Whitehorse, Aklavik, Resolute. In summer 1955 a detailed analysis of survey results was made. Findings are summarized.

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**45009.** G., P. L'expédition soviétique dans l'Antarctique et les récentes découvertes dans l'Arctique. (Nature, Paris, Mar. 1956. no. 3251, p. 96.) Text in French. *Title tr.*: The Soviet expedi-

tion to the Antarctic and recent discoveries in the Arctic.

Includes note on Soviet discoveries 1954–1955 in the Arctic Basin: Lomonosov and other ridges dividing the Basin into three main depressions; dynamics of water masses in the Arctic Ocean.

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45010. GAARDER, KAREN RINGDAL, and others. Further observations on the coecolithophorid, Calciopappus caudatus. Oslo, J. Dybwad, 1954. 9 p., 2 illus., 4 plates. (Norske videnskaps-akademi, Oslo. Matematisk-naturvidenskapelig klasse. Avhandlinger, 1954, no. 1.) Other authors: J. Markali and E. Ramsfiell.

Contains a description and discussion of this coccolithophorid collected in northern Norwegian Sea in June 1952 and 1953, also recorded from Atlantic waters southwest of Svalbard. For the original description see No. 34798 of Arctic Bibliography.

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GABEL-JØRGENSEN, CARL CHRIS-TIAN AAGE, 1895-, see Bogen om Knud . . . 1945. No. 44073.

**45011. GAD, FINN, 1911**—. Christopher Carl Dalager, 9. april 1726—1. januar 1799. (Grønland, Feb. 1956, nr. 2, p. 78–79.) Text in Danish.

Notes on life and work of C. C. Dalager, employed by the Greenland Trading Company 1745–1799. He was active in Jakobshavn, Christianshåb and Frederikshåb, founded Ritenbenk (1755), Umanak (1758) and Upernavik (1769). He initiated and led the whaling on Arveprinsens Ejland (69°40′ N. 51° W.) in Disko Bay (1784). Copy seen: DLC.

45012. GAD, FINN, 1911— . Historiens mænd og kvinder i Grønlands tjeneste: Gjertrud Nielsdatter Rasch 1673–21. december 1735. (Grønland, July 1953, nr. 7, p. 278–80, port.) Text in Danish. Title tr.: Men and women in the service of the Greenland of the past: Gjertrud Nielsdatter Rasch 1673–Dec. 21, 1735.

Biographical notes on the wife of Hans Povlsen Egede; she accompanied him to Greenland in 1721, helped and supported him in his missionary, social and educational work. *Copy seen:* DLC.

**45013.** GAD, FINN, 1911– . Samisk og grønlandsk. (Grønland, Nov. 1956, nr. 11, p. 401–413, illus.) Text in Danish.  $Title\ tr.:$  Lappish and Greenlandic.

Position of the Lapps in Scandinavia is compared with that of the Greenlanders in Greenland particularly as regards language. Both these peoples should be bilingual to preserve their own cultural tradition and at the same time make the most of contact with the modern civilization to whose influence they are exposed.

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GAD, FINN, 1911—, see also Salling, A., and others. Danskbogen II-IV . . . . 1955, 1956. No. 47761.

GAERTNER, ROBERT A., see Kay, J. H., and R. A. Gaertner. The treatment of ventricular fibrillation . . . hypothermic animal . . . 1956. No. 45922.

45014. GAGNON, PAUL M., and A. DES MARAIS. Conditionnement, par l'exposition au froid, de la réponse thyroïdienne à la thyrotrophine chez le rat hypophysectomisé. (Société de Biologie, Paris. Comptes rendus, 1955. t. 149, no. 15-18, p. 1726-28, tables.) 9 refs. Text in French. Title tr.: Conditioning, by exposure to cold, of the thyroid response to thyrotropin in the hypophysectomized rat.

When cold-exposed, such animals showed a significant increase in height of the thyroid epithelium following administration of very small amounts of thyrotropine. The effect was less pronounced with medium doses and disappeared with large ones.

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45015. GAÏGEROV, S. S. Nekotorye rezul'taty aėrologicheskikh nablūdeniī na dreīfuūshcheī stantsii "Severnyī polūs-4" letom 1955 g. (Meteorologiā i gidrologiā, June 1956, no. 6, p. 3–13, table, graphs, map.) Text in Russian. Title tr.: Some results of aerological observations on the drifting station North Pole-4 during the summer of 1955.

Vertical section of the atmosphere was systematically observed, Apr. 10-Nov. 1, Meteorological data (temperature, wind, clouds, etc., at different altitudes) are presented for 12 days of April, July and September (fig. 2-4, 6), as well as conditions generally (barometric pressure, precipitation, visibility, etc.) at Vertical structure of cyclones sea level. and atmospheric fronts is studied. Height of the tropopause, temperatures of the tropopause and lower stratosphere (typical temperature distribution at different altitudes to 30 km. fig. 5) are examined. Character of thermal stratification of the lower layer of the atmosphere is described in relation to radiation and advective inversions affected by air currents and thawing of ice and snow. Aerological conditions associated with the formation and dissipation of low-level cloudiness and fogs are studied.

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45016. GAILLARD, R. Effets de la réfrigération locale sur les processus d'excitation des nerfs moteurs in situ chez l'homme. (Société de Biologie, Paris. Comptes rendus, 1955. t. 149. no. 23–24, p. 2090–92, illus.) 6 refs. Text in French. Title tr.: Effects of local cooling on the excitation process of human motor nerves in situ.

Report of observations on the long supinator muscle cooled locally. Low temperatures caused a pronounced deadening of the nerve; moderate cold reversed the effect. Copy seen: DNLM.

GAILLARD, R., see also Coraboeuf, É., and others. Hypothermie et rechauffement rapide . . . l'animal. 1956. No. 44461.

GAILLARD, R., see also Lainé, P., and others. Hypothermie centrale rapide . . . 1956. No. 46214.

GAKKEL', ÎAKOV ÎAKOVLEVICH, see Belov, M. I. Arkticheskoe moreplavanie . . . 1956. No. 43944.

45017. GALAKHOV, N. N. Klimat Srednego Priangar'ıâ i bassefna verkhnef Leny. (Akademiı nauk SSSR. Institut geografii. Trudy, 1955. vyp. 64, Materialy po fizicheskol geografii SSSR, 1, p. 160–72, illus., diagrs., table, maps.) 11 refs. Text in Russian. Title tr.: Climate of Middle Angara region and upper Lena River basin.

The dry, cold, anticyclonic continental climate of the area north and east of Lake Baykal, roughly 53°-57° N. 98°-108° E. is characterized for spring, summer, fall and winter, with specific reference to the Angara basin, the watershed, and the Lena basin. Air temperature (mean, max. and min.), prevailing winds, precipitation, temperature inversions droughts in spring and summer, influence of arctic air masses, etc., are noted in course of the discussion. Summer weather (with max. daily temperature at least 20° C. and min. over 0° C.) lasts but 27-16 days in this area. The severe drought of 1915, which caused great forest fires with dense smoke shrouding all central Siberia, is described and extent of the devastation mapped (p. 165). Copy seen: DLC.

45018. GALAKHOV, N. N. Mikroklimaticheskie nablūdeniū v ralonakh Srednego Priangar'ū i basselna verkhnel Leny. (Akademiū nauk SSSR. Institut geografii. Trudy, 1955. vyp. 64, Materialy po fizicheckol geografii SSSR, 1, p. 173–92, diagrs., graphs, tables, map.) 15 refs. Text in Russian. Title tr.: Microclimatic observations in the region of the Middle Angara and the upper Lena basin.

Since the beginning of the 20th century. the climate of the Angara-Lena area (roughly, 53°-57° N. 98°-108° E.) been observed by several geographical and botanical expeditions, and in 1950 it was studied by the climatological team of the Angara-Lena Expedition of the Institute of Geography. Results of these observations are presented in a characterization of the severe, continental climate of this area. It has daily fluctuations of air temperature amounting to 20-30° C. and frost occurring in June and even in July. Influence of the surface relief on air temperature, humidity, moisture of the soil, wind and vegetation in various localities is outlined and illustrated by graphs and diagrams, and the data are summarized on tables. The spread of autumnal color change and shedding of leaves in Aug.-Sept. is discussed and shown in map (p. 188). Copy seen: DLC.

GALAKHOV, N. N., see also Akademiiâ nauk SSSR. Institut geografii. Voprosy izucheniiâ snega . . . 1955. No. 43525.

GALAKHOV, N. N., see also Obruchev, S. V. Spravochnik puteshestvennika . . . 1949-50. No. 47123.

45019. GALENCHIK, I. Z. Dobycha torfa na udobrenie skreperom tipa SKF-4 i bul'dozerom D-159. (Akademißa navuk BSSR, Minsk. Instytut torfa. Trudy, 1956. t. 5, p. 47-76, illus., tables, diagr., graphs.) 12 refs. Text in Russian. Title tr.: Mining of peat for fertilizing purposes with scraper SKF-4 and bulldozer D-159.

Various schemes of peat mining are described according to the type of ground surface, the thickness and moisture of removable layer of peat. Tabulated fractional composition of peat is given for various types of crushing machine. The use of the bulldozer D-159 is de-

scribed with illus, and tabulated performance characteristics.

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45020. GALKIN, I. G. Vybor éffektivnogo sposoba zimnego betonirovania. Moskva, Gos. izd-vo stroitel'noI lit-ry, 1951. 92 p., tables, graphs, 12 refs. Text in Russian. *Title tr.:* Selection of an effective method for winter concrete work.

General theoretical and experimental studies on preparing concrete of specific qualities are described, with particular consideration of low temperature conditions. Among others, the so-called "Thermos" method is described, various steam- and electric-heating methods, combined methods, and use of heated compartments or sheds. Thermodynamic computations are given with experimental coefficients corresponding to various conditions and to different composition of the concrete mixture according to its use (in foundations, floors, columns, beams, etc.). In conclusion, an analysis of various methods is offered, with sets of curves for variation of strength, time of setting, with temperature and other factors. Copy seen: DLC.

45021. GALLOWAY, R. W. Études morphométriques de galets dans le Lyngsdal, Norvège septentrionale. (Revue de géomorphologie dynamique, Mar.—Apr. 1956. année 7, no. 3-4, p. 53-56, sketch map, graph.) 5 refs. Text in French. Summary in English. *Title tr.*: Morphometric studies of pebbles in Lyngsdal, northern Norway.

"The evolution of the shape of pebbles in the outwash stream of the Lyngsdal glacier was studied in relation to the gradient of the talweg and the distance of transport. It was found that the smoothness evolved independently of the gradient and varied as the log of the distance of transport. The flatness remained constant. A comparison of stones from terraces with those in the present river bed enabled the approximate distance to the ice snout when the terraces were deposited to be estimated."—

Author's summary. Copy seen: DGS.

45022. GALLOWAY, R. W. Mechanical measurement of glacier motion. (Journal of glaciology, Mar. 1956. v. 2, no. 19, p. 642-44, sketch map, diagrs., graph.) 9 refs.

An instrument for continuously recording ice movement at a point on the glacier surface is described. Test results on Lyngsdalsbreen, made during the 1953 Edinburgh University Lyngen Expedition in North Norway are given. A single wire is run from a point on the valley side to a pulley arrangement on the glacier surface and returned to another point on the valley side the same distance from the pulley. Glacier movement turns the pulley which is coupled to a recording clock drum. The method has considerable limitation, but is suitable for small expeditions.—From SIPRE.

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45023. GALLOWAY, R. W. Rides de façonnement glaciaire sur une moraine de fond dans le Lyngsdal, Norvège septentrionale. (Revue de géomorphologie dynamique, Nov.—Dec. 1956. Année 7, no. 11-12, p. 174-77, diagrs.) 8 ref. Text in French. Summary in English. Title tr.: Glacially-made ridges on a

ground moraine in Lyngsdal.

Ice-ridged ground moraine on Lyngen Peninsula (69°20′-70° N. 20° E.) is described and subdivided into a long, low type probably formed by erosion of till by the fluted undersurface of the glacier and a tapering type found on the distal side of boulders and formed by till accumulating in subglacial tunnels. Formation of the latter type is discussed, and conclusion offered that the material may have accumulated by deposition from the roof of the tunnel, rather than by injection of wet plastic till as previously suggested by some authors.—From author's abstract.

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45024. GALLOWAY, R. W. The structure of moraines in Lyngsdalen, North Norway. (Journal of glaciology, Oct. 1956. v. 2, no. 20, p. 730-33, illus. (p. 763). sketch map, diagrs.) 5 refs.

Contains results of field work during the Edinburgh University Lyngen Expedition in 1953. The structure of moraines of two valley glaciers in Øvre Lyngsdal, Lyngsdalsbreen and Litle Jiek'-kevarribreen, was studied by fabric analysis. Method is described. "It was found that englacial material tends to lie parallel to the direction of movement of the ice, and material in lateral and terminal moraines show orientations under which it was deposited."

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45025. GAL'PERIN, TÜRİİ MANUI-LOVICH. TAn Nagurskii v Moskve.

(Ogonëk, Aug. 1956. god 34, no. 32, p. 30, illus.) Text in Russian. *Title tr.:* Jan Nagórski in Moscow.

This Polish flyer (formerly called in Russian, Ivan Iosifovich Nagurskii), who made the first arctic flights in 1914, over Novaya Zemlya and Barents Sea, recently visited Moscow. He was welcomed by M. I. Shevelev, chief of polar aviation and by such outstanding Soviet arctic flyers as B. G. Chukhnovskii A. N. Vodop'íanov, and M. A. Titlov.

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45026. GAL'PERIN, ÎŪRIÎ MANUI-LOVICH. PervyIpolârnyIletchik. (Ogonëk, June 1956. god 34, no. 26, p. 25, illus.) Text in Russian. *Title tr.:* The first arctic fiver.

Biographical note on the Polish (not Russian) flyer, Jan Nagórski (Russian spelling: Ivan Iosifovich Nagurski). Born in 1888, he is still living, in Warsaw (not born 1883-died 1917, as previously indicated in Russian sources). Na órski made first arctic flights in 1914 in search of Sedov's expedition.

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45027. GAL'PERIN, M. I. Opytnafa proverka mekhanizmov dlfa razrabotki merzlogo grunta. (Stroitel'nafa promyshlennost', Sept. 1956. god 34, no. 9, p. 11–12, diagrs.) Text in Russian. *Title tr.*: Experimental evaluation of the equipment for breaking of frozen ground.

A diesel hammer, attached to a tractor or excavator, is described with illus. Its operation is analyzed in respect to productive efficiency with different wedges. Frozen ground 1 m. thick was broken by a wedge 360 mm. wide with 30° taper angle, using 120 blows of 600 kg. hammer weight. Corresponding production was about 30m³ per shift. The 180 mm. wedge with 7° taper angle breaks the same ground by 40 blows and increases production to 100m³. The 1,200 kg. hammer further increases production to 150m³ per shift. Copy seen: DLC.

45028. GALSTER, JULIUS. Grønlandsk husflid; fremstilling, salg og fremtidsmuligheder. (Grønland, Aug. 1956, nr. 8, p. 281–88, illus.) Text in Danish. Title tr.: Greenland handicraft; production, sale and prospects.

The most common handicraft products are described, also the functions of Grønlandsk Husflid, an association founded in 1938 to further the handicraft industry: instructing the Greenlanders, sponsoring

sale, etc. The present turnover is 100,000-200 D. kr./year, and it could be increased. **Copy seen:** DLC.

**45029.** GALSTER, JULIUS. Kan de grønlandske vandfald utnyttes industrielt? (Grønland, Jan. 1956, nr. 1, p. 20–26. illus.) Text in Danish. *Title tr.*: Can the Greenland waterfalls be utilized industrially?

Contains a short survey of waterfalls in Greenland with details of the Fox fall, about 10 km. northwest of the Ivigtut mine, and the Amitsuarssuk fall at the bottom of the Lichtenau fiord, about six hours by motorboat from Sydprøven (approx. 60°30′ N. 45°30′ W.) West Greenland. Potential of the former is estimated at tens of thousands hwp., the latter 8,000-10,000 hwp. No development is planned at present.

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45030. GAM, MIKAEL, 1901—. Går der en klar linje gennem den grønlandske skoles opbygning? (Grønland, June 1956, nr. 6, p. 227–34, illus.) Text in Danish. *Title tr.*: Is there a clear line running through the work of building the Greenland school-system?

Discusses some of the principles applied in building up the Greenland school-system: it has a flexible syllabus to allow for special local conditions, boarding schools in isolated regions with sparse population.

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45031. GAM, MIKAEL, 1901- . De samiske kostskoler i Nordsverige. (Atuagagdliutit: Grønlandsposten, Mar. 22, 1956. Ukiut 96-iat, nr. 6, p. 5-7.) Text in Danish. *Title tr.:* Lapp boarding schools in north Sweden.

Describes trip made by the author and two others in 1955 to study Swedish Lapp boarding schools with a view to establishing similar ones in Greenland: at Thule, in the sheep-farming district around Julianehåb, and at Angmagssalik. There are ten such government-run boarding schools in Sweden, with some 400-500 pupils altogether. Teaching is in Swedish but Lappish is taught as a special subject. Most of the teachers are Lapps. A description of the schools and of some aspects of the teaching is included.

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45032. GAMBURŤŠEV, G. A. Seïsmicheskie metody geologicheskoĭ razvedki. (*In his:* Prikladnaâ geofizika, vyp. 2, Seïsmometriâ, 1934, p. 165–99, tables,

graphs.) 51 refs. Text in Russian.

Title tr.: Seismometric methods of geological prospecting.

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Investigation of geological strata by using seismic waves of artificially produced local earth tremors is discussed. "Consideration is given (p. 189-94) to the problem of glacier study using elastic and reflected waves to determine the thickness and structure of glacier ice. Investigations of glaciers in Europe and Greenland are outlined, and the accuracy of the measurements is discussed. The homogeneity of glacier ice increases the accuracy, especially for reflected waves with their shorter oscillation period. Investigations in the Tim Region (area of the Kursk Magnetic Anomaly) discovered the effects of the strength and distance of blasts on the received oscillations. To exclude these effects, it is necessary to distribute the blast sources along an arc at an equal distance from the measuring instrument."-SIPRE. Copy seen: DLC.

45033. GAMON-GAMAN, G. Nebesnye felerverki. (Smena, Sept. 1956. god 33, no. 18, p. 24, illus.) Text in Russian. *Title tr.*: Fireworks of the sky.

On auroras seen during a sea trip and a stay at Tuloma on Kola Peninsula.

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GANDRUD, EINAR, see Moe, O. W. Små glimt . . . felttoget i Finnmark. 1946. No. 46793.

**45034.** GANESHIN, G. S. Proiskhozhdenie Shantarskikh ostrovov. (Priroda, Apr. 1956, no. 4, p. 91–93, illus., text map.) Text in Russian. *Title tr.:* Origin of the Shantarskiye Islands.

Contains a popular description of these islands in the southern Okhotsk Sea, their geography, geological structure, tectonics, orography, ichthyology and flora. The question of the last transgression of the Okhotsk Sea and separation of these islands from the mainland (ca. 9,000–10,000 years ago) is considered.

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GANG, R., see Rempel, R. C., and R. Gang. Crevasse detection studies . . . 1956. No. 47557.

GANONG, WILLIAM F., see Bernhard, W. F., and others. Effect of hypothermia . . . peripheral serum levels . . . 17-hydroxycorticoids . . . 1956. No. 44004.

45035. GARDNER, IRVINE M. Northern sinecure. (Beaver, Winter 1956.

Outfit 287, p. 48-52, illus.)

Popular description of the regular duties and daily life of a Hudson's Bay Company post manager and his clerk from the arrival of the annual supply ship in summer until its return the next year.

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45036. GARFIELD, VIOLA EDMUND-SON, 1899— Antecedents of totem pole carving. (In: Alaskan Science Conference . . 1953. Proceedings, pub. 1956, p. 242–48.) 11 refs.

Carving of columns by Northwest Coast Indians during the 19th century is described. These tribes (including Haida and Tlingit) lived in an area bounded on north by Yakutat Bay and on south by Straits of Juan de Fuca. The custom developed during the 18th century and derived from two main traditions common to the circum-North Pacific area: house construction with decorative houseposts, facade poles, etc.; and the custom of marking or supporting burials with carved or painted posts. Each antecedent is discussed, its influence traced. Early explorers' observations are cited.

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45037. GARFIELD, VIOLA EDMUND-SON, 1899-, and L. A. FORREST. The wolf and the raven. Seattle, University of Washington Press, 1948. ix, 151 p. illus.

Describes the totem poles of the Tlingit Indian raven and wolf (or eagle) phratries, mostly of the late 19th century. The poles collected at the Saxman, Ketchikan, and Klawak Totem Parks, and Mud Bight village are dealt with, the represented legends retold and their origin and clan belonging given. The pole carving and painting techniques, artistic merits, religious and heraldic significance, symbolism, etc., are discussed in turn.

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GARGOUÎL, YVES-MICHEL, see Coraboeuf, É., and others. La repolarisation du myocarde au cours de l'hypothermie . . . 1956. No. 44462.

GARIBALDI, GIORGIO, see Pincelli, C., and G. Garibaldi. Su di un caso di osteosclerosi infantile . . . 1955. No. 47360.

GARLAND, S. O., see Ahlmann, H. W. Sverige nu . . . 1950. No. 43506.

45038. GARTLEIN, CARL WITZ, 1902-

The aurora borealis. [Washington, D. C.] 1956. v, 17 p. illus., table, text map. (In: U. S. Office of Naval Operations. The dynamic North, v. 1, no. 11.) 29 refs.

Contains a general description and illus. of the various types of auroral forms. Theories and physical characteristics of the aurora are outlined, and the photography of it is discussed.

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GARTLEIN, CARL WITZ, 1902-, see also Bless, R. C., and others. East-west motions . . . aurora. 1955. No. 44053.

45039. GASSER, GEORGE WILLIAM, 1875— . Effect of low temperatures on growth of tree roots. (*In:* Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 134.)

Most trees and shrubs in the Arctic and sub-Arctic showed a great differential in root growth, the latter being confined to surface soil layers. Also, in contrast to temperate climate, annular rings in the cold zone are elliptic.

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45040. GASSER, GEORGE WILLIAM, 1875—. The grasses of Alaska. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 46–51, tables.) 11 refs.

Information is presented on the importance of grasses to man; grass research in Alaska since its beginning in 1904; outstanding studies, and collections made; nutritive and economic value of local grasses.

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45041. GASSMANN, GEORGE J. Airborne ionospheric measurements in the North Pole area. (Journal of geophysical research, Mar. 1956. v. 61, no. 1, p. 136-38, diagrs.)

Preliminary results are presented of measurements made with equipment installed in a four-engine C-97 aircraft during 1954-55. The speed of fading of an ionospheric reflection is graphed. Two drift measurements made at the North Pole gave values of 41 m./sec. toward 290° and 33m./sec. toward 270°. No principal differences in ion density were noted between the North Pole, Resolute Bay, Baker Lake (Northwest Territories), or Point Barrow (Alaska). No vertical reflections from the F-layer were revealed on a large number of

occasions. Future plans for similar research are outlined briefly.

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45042. GASTEV, A. Khudozhniki, marinisty. (Ogonëk, July 1956. god 34, no. 31, plates between p. 16-17.) Text in Russian. *Title tr.:* Marine artists.

Presents several modern Soviet painters of sea life; illus. of their work include views of the Barents Sea coast by V. V. Meshkov and of Kamchatka by E. A. L'vov. Copy seen: DLC.

45043. GATES, GEORGE OSCAR, 1905- Developments in Alaska in 1955. (American Association of Petroleum Geologists. Bulletin, June 1956. v. 40, no. 6, p. 1390–94, text map.) 7 refs.

Exploration and drilling in 1955 were largely confined to southern Alaska. Two holes were completed and three recessed over the winter. Eight company geologic parties, one company seismic party, and three U. S. Geological Survey parties conducted field investigations in the Copper River Basin, the Matanuska valley, Kenai and Alaska Peninsulas, and in east-central Alaska in the triangle between the Yukon and Porcupine Rivers and the International Boundary. Oil and gas leases were issued covering nearly 800,000 acres, 90 percent in southern Alaska.

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**45044.** GATES, OLCOTT, 1919—, and W. GIBSON. Interpretation of the configuration of the Aleutian Ridge. (Geological Society of America. Bulletin, Feb. 1956. v. 67, no. 2, p. 127–46, 3 illus., 6 maps (1 fold.), profiles, crosssections, table.) 30 refs.

Western part of the Aleutian Ridge (approx. 50°30′-53°30′ N. 170°-180° E.), is discussed on data from a contour map of the submarine topography surrounding the Near Islands and a previously published map of the Rat Islands (No. 29258). The general geology is summarized and four main submarine topographic provinces are discussed in order of increasing depth: crest of the Aleutian Ridge, insular slopes, Aleutian bench, Aleutian trench. Writer suggests that the western part of the Ridge "is an arched and faulted asymmetrical wedge bounded by a northward-dipping normal fault on the north and by a northwarddipping zone of reverse faults on the south. Formation of this wedge probably

began with major uplift and faulting of the . . . area during the middle Tertiary." Deformation is continuing.

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GATES, WILLIAM LAWRENCE, 1928—, see Blackburn, J. F., and W. L. Gates. Note on hemispheric numerical integration of the barotropic model. 1956. No. 44045.

GAUGLER, LORRAINE P., see McBee, R. H., and L. P. Gaugler. Identity of thermophilic bacteria . . . soils and waters. 1956. No. 46514.

GAULT, MONA, see Imig, C. J., and others. Blood flow . . . limbs . . . exposure to cold. 1956. No. 45687.

45045. GAUROY, PIERRE. Le Groenland d'aujourd'hui. (Nature, Paris, Sept. 1956. no. 3257, p. 352-59, 12 illus., text map.) Text in French. Title tr.: The Greenland of today.

Popular account of hunting and fishing; sheep farming, agriculture, reindeer herding; mining and industries; diseases and public health; education; wildlife conservation.

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45046. GAVELIN, SVEN. Sulphide mineralization in the Skellefte district, northern Sweden, and its relation to regional granitization. Stockholm, 1956. 18 p. 2 text maps. (Stockholm. Högskolan mineralogiska institutet. Meddelanden, ny följd, bd. 10, no. 207.) Reprinted from Economic geology, Dec. 1955, v. 50, no. 8, p. 814–31.

Includes references to geology and mineralization in northern Fennoscandia, to the Kiruna and northern Finland ores, also those of Flin Flon and other locations in the Canadian Shield.

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45047. GAZZARRINI, ALESSANDRO, and F. TORRES. Il tasso glicemico nel coniglio ibernato artificialmente. (Minerva anestesiologica, Mar. 1955. anno 21, no. 3, p. 70-71, illus.) 7 refs. Text in Italian. Summary in English. *Title tr.*: Glycemic state in the artificially hibernating rabbit.

Account of investigations on animals made hypothermic to around 30° C. with the aid of gangliolythic drugs. The lower the body temperature, the higher was the degree of glycemia. It is assumed that this is due to decreased glucose consumption in the peripheral tissues.

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GEARY, JOHN M., see Jellison, W. L., and others. An outbreak . . . schistosome dermatitis in Alaska. 1954. No. 45778.

GEDROĬTS, N. A., see Leningrad. Nauchno-issledovatel'skiI institut geologii Arktiki. Metodicheskie issledovania po geokhimii . . . 1956. No. 46312.

45048. GEHENIO, Sister MARIE PIERRE, 1909—, and B. J. LUYET. Effect of cooling and rewarming velocities in prevention of hemolysis by freezing. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 71.)

By increasing more and more the speed of cooling and rewarming of thin layers of blood (ox), the authors succeeded in progressively reducing hemolysis to a final 8 percent. **Copy seen:** DLC.

45049. GEIGER, ERNEST, 1896, and J. J. PINSKY. Effect of changes in environmental temperature on stomach emptying in rats. (Society for Experimental Biology and Medicine. Proceedings, Jan. 1956. v. 91, no. 1, p. 107–110, table.) 7 refs.

Transfer of rats from room to cold (3° C.) or warm environmental temperature immediately after a protein meal delayed stomach emptying. After adaptation voiding became similar to that at room temperature.

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45050. GEIJER, PER ADOLF, 1886—. Till apatitmalmdiskussionen. (Geologiska föreningen, Stockholm. Förhandlingar, 1949. bd. 71, häfte 2, no. 457, p. 367–70.) 6 refs. Text in Swedish. Title tr.: To the discussion on apatite ores.

Summary of the author's oral contributions to the discussion on Kiruna type ores by Asklund and Landergren, q. q. v. Metals of technical importance, Dr. Geijer points out, such as copper, zinc, lead, gold, silver, tins, and others, are concentrated through endogenic processes. He discusses the phosphorus content of Precambrian iron ores, causes of phosphorus enrichment, and other aspects of the Kiruna ore problem, with the final suggestion that further research is advisable.

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45051. GEĬNRIKH, A. K. O produktšii kopepod v Beringovom more. (Akademifa nauk SSSR. Doklady, Nov. 1, 1956. t. 111, no. 1, p. 199–201, illus., table.) 11 refs. Text in Russian.

Title tr.: On the copepod production in the Bering Sea.

Contains results of a study of the most common copepods: Calanus cristatus, C. tonsus, C. finmarchicus s. lat., Eucalanus bungii and Metridia pacifica, carried out on the research vessel Vitiaz' in 1950-Annual production in western section of the Sea (500 m. deep) is almost ten times greater than in the northern Two species C. tonsus and (55 m.). C. cristatus, cannot propagate in the cold and shallow northern waters. zooplankton is related to the phytoplankton production but it depends also on the biological characteristics of the zooplankton species and on the environmental conditions. Copy seen: DLC.

45052. GEÏNRIKH, A. K. O sezonnykh rasakh u veslonogogo rachka *Calanus tonsus* v Beringovom more. (Akademiña nauk SSSR. Doklady, July 11, 1956. t. 109, no. 2, p. 403–405, 2 diagrs.) 3 refs. Text in Russian. *Title tr.:* Seasonal races of *Calanus tonsus* in the Bering Sea.

This copepod species reproduces twice a year: in winter-early spring, and at the end of summer. The development may be divided into five stages which are characterized by a certain length (diagrams). Two distinct groups, large and small, were observed, they may be considered as seasonal races. There is no morphological difference between these groups but they differ in length and in the time and conditions of the development. The "large" group develops in the period when the temperature of the upper horizons of sea water is at a minimum: the "small" group reproduces when the sea water termperature reaches its maxi-The length of the development stages also differs in the two groups.

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45053. GEIST, OTTO WILLIAM, 1888-. Biogeography, the fossil record: abstract. (In: Alaskan Science Conference... 1953. Proceedings, pub. 1956, p. 200-201.)

Knowledge of the range of extinct mammals provides information on past geographic conditions in Alaska. Many Quaternary forms have been collected from perennially frozen ground. Bison was most common and widespread of fossil types. Mammoth and horse were also common, mastodon relatively restricted, camel and sabertooth cat rare. Evidence of the rhinoceros, common in

Siberia in the Pleistocene, has not been found in Alaska. *Copy seen:* DGS.

45054. GELL, C. F., 1907—, and others. Rapid freezing of intact living mammals. A method of fixation for physiological evaluation. (Journal of applied physiology, Jan. 1956. v. 8, no. 4, p. 388–92, illus.) 5 refs. Other authors: D. Cranmore and R. Crosbie.

Reports investigation on the rate of freezing in toto of several laboratory animals as applied for physiological studies. Because of their large mass, monkeys, rabbits (or animals of similar size) proved unsuitable, except for the study of brain or appendages. Rats took 150 seconds for total freezing to liquid nitrogen temperature, and like animals of similar size are most suitable for the purpose.

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45055. GELTING, PAUL EMIL EL-LIOTT, 1905—. Über Pleistozäne Pflanzenrefugien in Grönland. (Naturforschende Gesellschaft, Schaffhausen. Mitteilungen, 1941. Bd. 17, p. 74–96, 6 text maps.) 41 refs. Text in German. Title tr.: On Pleistocene plant refuges in Greenland.

Contains brief discussion of geology, climate, snow cover and duration, as factors related to plant life in Greenland; plant refuges of the Würm glacial period on the northeast, southeast, west and north coasts; plant migration between west and east coasts; plant refuges in North Greenland during glacial epochs prior to the Würm, in early-middle Pleistocene: theories of continental drift and polar wandering; plant exchanges between North America and Eurasia across North Greenland during earlymiddle Pleistocene, with discussion of present world distribution of various species. Copy seen: DGS.

GEMMA, GIOVANNI BATTISTA, see Taddei, C., and others. Studio dei fenomeni che accompagnano la ipotermia dell'encefalo . . . 1956. No. 48331.

45056. GEOGRAFIIA V SHKOLE. Izverzhenie vulkana na Kamchatke. (Geografia v shkole, Mar.—Apr. 1956. god 19, no. 2, p. 69.) Text in Russian. Title tr.: Volcanic eruption on Kamchatka.

Eruption of the volcano Bezymyannyy, belonging to Klyuchevskaya Sopka group, is described from information in the newspaper Vechern@@ Moskva, Dec. 20, 1956. The eruption began at the end of 1955,

preceded by tremors and shocks. An expedition was sent to make observations of the eruption and measure radioactivity of the ejected lava. **Copy seen:** DLC.

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45057. GEOGRAFIIA V SHKOLE. Krasnofarskii Krai v shestoi pfatiletke. (Geografifa v shkole, Nov.—Dec. 1956. god 19, no. 6, p. 68—69.) Text in Russian. Title tr.: Krasnoyarsk Province in the sixth five-year plan.

Summarizes newspaper information on far-reaching industrial developments planned for this province: construction of hydro-electric power plants on the Yenisey River, aluminum production and refineries, expansion of the wood industry, etc. New metallurgical plants in Noril'sk are planned.

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45058. GEOGRAFIIÂ V SHKOLE. Na dreifuûshchikh polârnykh stantsiâkh. (Geografiâ v shkole, July-Aug. 1956. god 19, no. 4, p. 64-65.) Text in Russian. Title tr.: On the drifting polar stations. Based on Leningradska@ pravda, Apr. 11, 1956.

Notes main events on drifting stations North Pole-4, -5, and -6: the leaders, plans for 1956, etc. "North Pole-5" is expected to drift into Greenland Sea soon. "North Pole-6," headed by K. A. Sychev, was set up on an ice island approx. 14.5 km. by 11 km. found at 74°24' N. 182°57' E. The Arctic Institute had constructed and successfully tested an automatic weather station consisting of a duralumin mast 12 m, high, frozen into drift ice with the batteries and clock mechanism in a container submerged in the water and thus protected from winter frost; its total weight does not exceed 200 kg.; it periodically transmits data on temperature, atmospheric pressure, wind velocity and direction; the station's location is to be checked concurrently by land-based ra-Copy seen: DLC.

45059. GEOGRAFIIA V SHKOLE. Sovetskie issledovania v Arktike. (Geografia v shkole, Jan.-Feb. 1956. god 19, no. 1, p. 66-67.) Text in Russian. Title tr.: The Soviet exploration in the Arctic.

Note (from article in the newspaper Vodnyl transport, Nov. 3, 1955) on Russian participation in the International Geophysical Year arctic program, 1957–58; planned activities of observatories at Barentsburg, Tikhaya Bay, Dikson Island, Tiksi Bay and in Port Pevek, also observations of drifting stations "North Pole" -4, -5 and -6; the last is to continue

the drift of the former "North Pole-2," abandoned in 1951. Copy seen: DLC.

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45069. GEOGRAFIIÂ V SHKOLE. V nizov'íakh Enisefa i Leny. (Geografifa v shkole, Nov.-Dec. 1956. god 19, no. 6, p. 69-70, map.) Text in Russian. *Title tr.:* In the lower reaches of the Yenisey and Lena.

Summarizes article of N. N. Urvantsev, published in the newspaper Trud, Aug. 3, 1956, on the abundant natural resources of northern Siberia (cf. map): copper and nickel in the Noril'sk District, iron ore in the Nizhnyaya and Podkamennaya Tunguska River basins, rare minerals in the Kotuy and Kheta basins, salt in the Khatanga Bay area, diamond-bearing fields in the central part of the northern Yenisey-Lena region, etc.

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45061. GEOGRAFIIA V SHKOLE. V Sovetskom sofûze; po planu shestol pûtiletki. (Geografiû v shkole, July-Aug. 1956. god 19, no. 4, p. 60-63). Text in Russian. Title tr.: In the Soviet Union; according to the sixth five-year plan.

Summary of newspaper articles on geographical aspects of the economic development of the U. S. S. R. Aluminum production from nepheline ores in Kola Peninsula, open pit coal mining in Krasnoyarskiy Province, important coal and iron ore deposits and rich diamond fields discovered in Yakutia, are noted.

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45062. GEOGRAFIIA V SHKOLE. Vulkany krainego severo-vostoka. (Geografifa v shkole, July-Aug. 1956. god 19, no. 4, p. 63-64.) Text in Russian. Title tr.: Volcanoes in the far Northeast.

Brief description of the extinct Anyuy volcano on the upper reaches of stone (lava)-filled Monni River, former tributary of Bol'shoy Anyuy; based on an article in Magadanskaîa pravda, Jan. 7, 1956. Other volcanoes in northeastern Asia are mentioned.

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45063. GEOGRAFHÂ V SHKOLE. Vysokoshirotnyl reis ledoreza "Fedor Litke." (Geografiâ v shkole, Jan.-Feb. 1956. god 19, no. 1, p. 67.) Text in Russian. Title tr.: The high latitude trip of the ice-breaker Fedor Litke.

Note (based on news report in Vodnyt transport, Nov. 1, 1955) on the Arctic Institute's 1955 expedition on the Litke,

V. I. Potashnikov in command, to investigate the area between Svalbard and Greenland. From Dikson Island it sailed northward from Franz Joseph Land, and reached 83°11′ N. 49°03′ E. on Sept. 12, said to be the farthest north achieved by a free vessel. The expedition discovered a 5449 m. deep at 82° N., north of Svalbard.

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45064. GEOGRAFISK TIDSSKRIFT. Nationalmuseets etnografiske samling 1955. (Geografisk tidsskrift 1956. bd. 55, p. 181–94, illus.) Text in Danish. Title tr.: The ethnographical collection in the National Museum 1955.

Includes information on work in Greenland carried out by the National Museum in Copenhagen (p. 188-89). There are two centers of activity: Sermermiut in Disko Bugt, where a party of seven under Erik Holtved dug up several thousand objects, mostly stone tools from the paleo-Eskimo cultures Dorset and Sarqaq; and the area around Danmark Fjord (81°30'-80°50' N. 20°-25° W., North Greenland) where Eigil Knuth and Kristen Sørensen found eight settlements, seven of which dated from two different paleo-Eskimo cultures, and more than 300 objects, mostly paleo-Eskimo stone Ethnological investiand bone objects. gations were continued in Disko Bugt and at Holsteinsborg by Erik Holtved and Inge Parbøl. The museum has acquired an Eskimo oil-lamp from Kodiak Island (57°30' N. 153° W., Alaska) dating from the last pre-historic period, Kachemak III. Copy seen: DLC.

45065. GEOGRAFISKA SÄLLSKAPET I FINLAND. Suomen maantieteen käsikirja. Toimituskunta J. G. Granö [et al.] Toimitussihteerit Pentti Kalaja [ja] Erkki Uusittu laitos. Helsingissä, Kanervo. Kustannusosakeyhtiö Otava, 1951. 567 p. illus., maps, diagrs. Text in Title, etc., tr.: Geographical Finnish. handbook of Finland, by J. G. Granö and others. Edited by P. Kalaja and New edition. E. Kanervo.

First pub. 1936; English translation of this revised edition, pub. in 1952, was listed in this Bibliography as No. 29227, where contents, 36 chapters by specialists, are indicated. *Copy seen:* DLC.

**45066.** GEOGRAPHICAL JOURNAL. Expeditions in the field during 1955. (Geographical journal, Mar. 1956. v. 122, pt. 1, p. 124–26.)

Includes brief accounts of the following expeditions to arctic and subarctic regions. Size of parties is not given. Nottingham University North-West Spitsbergen Expedition, 1955; led by H. Mellor, the party carried out glaciological and geologic work in Vestspitsbergen in the Kongsfjorden region (79° N. 12° E.) ice cap to the east, and in the Krossfjorden region (79° N. 11°30' E.). Oxford University Expedition to North East Land, July 7-Sept. 13, 1955, led by J. T. Hollin, continued work of earlier Oxford expeditions; glaciological investigations were carried out on the Vestfonna (icecap, 79°50' N. 19°30' E.); surveys were made of the major features of several of the larger land outcrops and islands; marine soundings were made. A correction to this account appears in this journal, v. 122, pt. 2, p. 275.

Cambridge East Greenland Expedition, 1955, led by J. H. Latter, was to make investigations of arctic bird migration, a systematic collection of rocks, and general ethnological, botanical, and zoological collecting. Specific locality is not indicated.

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45067. GEOGRAPHY AND MAN. A practical survey of the life and work of man in relation to his natural environment. Advisory editor: W. G. V. Balchin, assisted by 75 eminent authorities. 2d ed. London, New Era Pub. Co., 1955. 3 v.: xii, 1368 p., illus. part col., ports., maps. Contents: v. 1, the heritage of man, Europe; v. 2, the British Isles, Asia, Africa; v. 3, the Americas, Australasia, man's work and industry.

Account of exploration and physical geography of the earth, includes general description of arctic and antarctic regions (v. 1, p. 112–35); northern Scandinavia and Finland, Asia, U. S. S. R., and Canada are treated briefly in sections on Europe, Asia, and the Americas.

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45068. GEOLOGISKA FÖRENINGEN, Stockholm. Mötet den 1 februari 1884. (Its: Förhandlingar, 1884. bd. 7, häfte 2, no. 86, p. 57-58.) Text in Swedish. Title tr.: The meeting of February 1, 1884.

Minutes include mention of a verbal review by Nathorst of the bedrock at Patoot, Greenland, especially the burned bituminous shale. Paleontological finds there were compared to those from Disko.

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45069. GEOLOGISKA FÖRENINGEN, Mötet den 10 april 1885. Stockholm. (Its: Förhandlingar, 1885, bd. 7, häfte 11, no. 95, p. 607-608.) Text in Swedish. Title tr.: The meeting of April 10, 1885. Minutes of the meeting include a report by Svenonius of glacial investigations in the Jukkasjärvi and Gällivare districts. Comparisons were made between snow line, lower limits of glaciers and rates of melting. Striae, stoss sides and block transport are related to probable location of the center of the icecap. A raised shoreline requires impounding of water. Copy seen: DGS.

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45070. GEOLOGISKA FÖRENINGEN, Stockholm. Mötet den 1 december 1892. (Its: Förhandlingar, 1892. bd. 14, häfte 7, no. 147, p. 557-60.) Text in Swedish. Title tr.: The meeting of December 1, 1892.

Account is given (p. 558-59) of an illustrated lecture by Axel Hamberg on sea ice, glacier ice, and glacier movement, based on his experience in the Arctic. Temperature, porosity, salt and gas content, crystalline structure, and foreign matter are discussed with respect to their relations to the nature, position (above or under water) and movement of ice.

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45071. GEORGES, G., and J. CAHN. Exploration de la réactivité du couple hypophyso-surrénalien sous neuroplégie, réfrigération externe et hibernation artificielle chez le rat. (Anesthésie et analgésie, 1956. t. 13, no. 4, p. 712-22, tables.) 7 refs. Text in French. Summary in English. Title tr.: Exploration of the reactivity of the hypophysoadrenal complex during neuroplegia, external cooling and artificial hibernation of the rat.

Studying the effects of neuroplegia upon the pituitary, the authors conclude that the combination promethazine-chlor-promazine, or Hydergine alone, are capable under certain conditions of preventing the appearance of pituitary hyperactivity. Hypothermia only, but not neuroplegia or artificial hibernation, exhibited an antagonistic effect towards ACTH. Copy seen: DNLM.

45072. GEORGES, G., and J. CAHN. Exploration de la valeur fonctionnelle du cortex surrénal sous neuroplégie, réfrigération externe et hibernation artificielle chez le rat hypophysectomisé. (Société de Biologie, Paris. Comptes rendus

1955. t. 149, no. 19-20, p. 1775-78, table.) 3 refs. Text in French. Title tr.: Exploration on the functional value of the adrenal in neuroplegia, external cooling and artificial hibernation of the

hypophysectomized rat.

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Above investigations showed that deep hypothermia causes inhibition of adrenocortical activity by 25-30°, and that artificial hibernation is accompanied by cortical inhibition of the same order. The effects of neuroplegia without hypothermia are also evaluated.

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GEORGES, G., see also Cahn, J., and G. Georges. Exploration de la réactivité hypophyso-surrénalienne sous réfrigération . . . 1955. No. 44231.

45073. GEORGI, JOHANNES, 1890-Rapports scientifiques des Expéditions Polaires Françaises N IV 4. Temperaturund Dichtemessungen des Grönländischen Inlandeises. (Annales de géophysique, t. 12, no. 1, p. 102-110, diagrs., tables.) 12 refs. Text in German. Summary in French and English. Title tr.: Scientific reports of the Expéditions Polaires Françaises N IV 4. Temperature and density measurements of the Greenland inland ice.

"Investigations of the temperature and density of the icecap, initiated in 1912-13 by A. Wegener and continued in 1930-31 by E. Sorge, are reviewed and compared with studies made in 1950. Measurements in 1950 confirmed the discovery made in 1930 of a decrease in ice temperature below a depth of 8 m and Sorge's explanation that the colder layers reflected the pre-1920 climate and that heat supplied by the earth was transferred to the shore by subglacial streams and lost to the ice. Sorge's law of an increase in firn density with depth was confirmed."-SIPRE. Copy seen: DGS.

GERARD, ROBERT. 45074. Pollen sampling in permafrost. '(Micropaleontologist, Oct. 1954. v. 8, no. 4, p. 38.)

Abstract of paper presented at the Second National Pollen Conference, Boston, Dec. 28–29, 1953. "A method used in 1953 in central Alaska to take contamination-free permafrost samples from accurately measured depths is described. The method consists of melting a hole in permafrost by forcing unheated water through a nozzle at the end of a 1-in. pipe set vertically at the surface of the ground. As the hole produced by the water jet reaches the desired depth (at a rate of a few cm./min.) the pipe is replaced by a sampling tube which is hammered 6-9 cm. below the bottom of the hole. tube is then rotated and removed with the permafrost sample. The method permits sampling to depths of more than 100 ft."-SIPRE. Copy seen: DGS.

GERASIMOV, I. P., and K. K. 45075. MARKOV. Paleogeografia SSSR v lednikovyl period. (In: International Geological Congress. 19th Algiers, 1952. Comptes rendus, sect. 13, fasc. 15, pub. 1954. Questions diverses Troisième partie: de géologie générale. Paléontologie stratigraphique, Quaternaire et pétrographie. p. 289-304, 2 text Text in Russian. maps, diagrs.) Ref. Summary in French. Title tr.: Paleogeography of U.S.S.R. territory during

the glacial period.

Conditions throughout the U.S.S.R. during the Quaternary were linked to local physical geographic factors. The increasing continentality of climate from west to east resulted in the presence of a typical icecap in European U. S. S. R., thinner glacial cover in western Siberia, and no continuous glacial cover in the Far East. In European U. S. S. R. three separate glacial epochs occurred whereas in Siberia only one period has been distinguished. Geological, geomorphological, archeological, and paleobotanical research has traced the history of the Quaternary period. Physico-geographical changes during this period had important influences on development of prehistoric man. Copy seen: DGS.

45076. GERASIMOV, MIKHAIL MI-KHAILOVICH, 1907- . Vosstanovlenie litsa po cherepu; sovremennyť i iskopaemyť chelovek. Moskva, 1955. 585 p. illus., tables, maps. (Akademifa nauk SSSR. Institut ėtnografii. Trudy, nov. serifa, Text in Russian. t. 28.) Refs. tr.: Reconstruction of human face from skull; modern and fossil man.

Includes (p. 414-50) a description of the neolithic cultures of the middle Angara, Lena and Yenisey River basins and the Lake Baykal region. The 1880-87 excavations by N. I. Vitkovskil, the author's in 1927 and other, recent, investigations, especially those by A. P. Oklad-nikov and F. G. Debets are discussed. Reconstructions of the human face from cranial finds (measurements are tabulated) are attempted showing the existence of European and Mongoloid races.

chronology of neolithic cultures, at variance with that of Okladnikov, is suggested. A map (p. 255) shows the possible migration routes of various races, including Lappoids and Mongoloids, to European Russia Copy seen: DLC.

45077. GERBODE, FRANK LEVEN ALBERT, 1907—, and others. Liver circulation in general hypothermia, 1; effect of cooling upon oxygen saturation and electrolytes in hepatic blood. (Stanford medical bulletin, Feb. 1956. v. 14, no. 1, p. 57–59, tables.) 8 refs. Other authors: I. A. da Costa and J. W. Rateliffe.

Account of investigations on O<sub>2</sub>-saturation, sodium and potassium concentrations in blood from the aorta, inferior vena cava, portal vein and hepatic vein of dogs made hypothermic to 25° C. The liver utilized oxygen and did not show hepatocellular hypoxia; O<sub>2</sub>-saturation of hepatic vein blood was higher in hypothermia than at normal body temperature.

\*\*Copy seen: DNLM.\*\*

GERBODE, FRANK LEVEN ALBERT, 1907—, see also Da Costa, I. A., and others. Liver circulation in general hypothermia, 2; effect of occlusion . . . 1956. No. 44522.

45078. GERBRANDY, J., and others. De mond-temperatuur. (Nederlandsch tijdschrift voor geneeskunde, Nov. 1955. jaarg. 99, no. 47, p. 3493–501, illus.) 13 refs. Text in Dutch. Summary in English. Other authors: E. S. Snell and W. I. Cranston. Title tr.: Mouth temperature.

Account of study on temperatures and their correlations in man. Sublingual temperature was found to average 0.1° C. below that of the lower oesophagus and 0.35° C. below rectal temperature. Vasoconstriction during fever may depress sublingual temperature as much as 1.5° C. Emotional collapse has a similar effect on mouth temperature.

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45079. GERBURT-GEĬBOVICH, A. V., and P. B. BABAKHANOV. Moduli deformatŝii zasolennykh gruntov. (In: Moskva. Avtomobil'no-dorozhnyĭ instŝii gruntov, 1955. p. 69-79, 8 graphs, table.) Text in Russian. Title tr.: Moduli of deformation of saline soils.

General considerations for construction methods of road surfaces on soils containing various mineral salts (Central Asia) are described. The variation of the modulus of deformation with "relative deformation" (1/d), degree of wetness and density are presented in a set of curves.

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45080. GERDEL, ROBERT WAL-LACE, 1901-, and M. DIAMOND. White-out in Greenland. Wilmette, Ill., Dec. 1956. iv, 12 p. illus., diagrs., tables. (U. S. Army. Corps of Engineers. Snow Ice and Permafrost Research Establishment. Research report 21.) 9 refs.

Studies in North Greenland during the summers of 1954 and 1955 on white-out phenomena and related meteorological conditions are discussed. Both fog and stratus-type white-outs were encountered frequently at elevations from less than 1,000 ft. to over 7,000 ft. on the icecap during a trip with a tractor-hauled freight swing to a point more than 200 miles east of Thule. Five classes of white-out were discerned: overcast, water-fog, icefog, blowing snow, and precipitation white-outs. Fog-type white-outs impose the most serious handicap on the icecap. More detailed meteorological observations may enable better prediction of the onset of white-out conditions, and artificial nucleation or other means may be developed to control it.

Copy seen: CaMAI.

GERDEL, ROBERT WALLACE, 1901–, see also Diamond, M., and R. W. Gerdel. Radiation measurements . . . Greenland ice cap. 1956. No. 44616.

GERLACH, A. M., see Greenberg, M., and A. M. Gerlach. Air Force in the International Geophysical Year. 1956. No. 45269.

45081. GERLACH, SEBASTIAN A. Die Nematoden-Gattung Microlaimus. (Zoologische Jahrbücher; Abt. für Systematik, Geographie und Biologie, 1950. Bd. 79, Heft 1–2, p. 188–208, 11 illus.) 53 refs. Text in German. Title tr.: Nematode genus Microlaimus.

Contains a discussion of the genus and descriptions of 19 species, of which three are new. M. paraborealis (Nordkap waters), M. borealis (Barents Sea) and M. dentatus (Hasvik, northern Norway) are included. Copy seen: DSI.

**45082. GERN, A. P.** Morozostoľkie sorta kartofelía. (Agrobiologiía, Sept.–Oct. 1956, no. 5 (101), p. 146–47.) Text

in Russian. Title tr.: Frost-resistant potato strains.

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Reports results of breeding frost-resistant varieties of potato, carried out by the Petrovsk State Agricultural Station (not arctic). The importance of this work for northern areas and Siberia is stressed.

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GEROVÁ, M., see Brod, J., and others. Changes . . . renal haemodynamics and functions . . . cold stimulus. 1956. No. 44140.

GERSHBERG, HERBERT, 1917—, see Ralli, E. P., and others. Effects of vitamin supplementation . . . cold stress . . . 1956. No. 47509.

45083. GERSHBERG, O. A. Vakuumirovanie betona v monolitnykh konstrukfsifakh. Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture. 1952. 60 p., illus., graphs. Text in Russian. Title tr.: Vacuum concrete in monolithic construction.

Describes the vacuum process to remove entrapped air and excess water from concrete, for improvement of its physical properties, particularly its strength, density and frost-resistant characteristics. This process accelerates setting, shortens the use of heated forms and coverings, and increases the durability of the construction. The apparatus (air pumps, water separators and collectors, suction end-pipes, etc.), general arrangement of the installation and its operation are described and illustrated. Specific measures to prevent freezing of valves, pipes and other parts under low temperature conditions are outlined: use of hot water or air circulation. Copy seen: DLC.

45084. GERSON, N. C. Sporadie E over North America. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956. p. 115.)

Abstract of paper, covering seasonal and geographical distribution of sporadic E over N. America. A strong maximum occurs during June–July. Monthly summaries during 1949 show that between 25°-50° N. lat., some sporadic E was found over almost every point in the United States. Copy seen: DGS.

45085. GERSTNER, KARL-HEINZ. Polet v budushchee. (Sibirskie ogni, Nov.-Dec. 1956, no. 6, p. 128-37.) Text in Russian. *Title tr.:* Flight into the future.

A Berliner Zeitung editor relates a

Moscow-Novosibirsk-Yakutsk-Irkutsk airplane trip in Aug. 1956 with a delegation of East German newspapermen. The Yakut gold mines at Aldan (approx. N. 124°30' E.), the smelting 58°30′ plant, and private gold prospecting (newly permitted) are described; some statistics on production and population are given. The hydro-electric plants on the Angara River at Irkutsk and Bratsk, both under construction, are discussed and the planned kwt output data mentioned. The report, translated by E. and A. Kitaĭnik, was first published in German in the Berliner Zeitung Aug. 12-Sept. 1, 1956. Copy seen: DLC.

45086. GERTSCH, WILLIS JOHN, 1906 - Notes on American Lycosidae. (American Museum of Natural History, New York. American Museum novitates, Feb. 2, 1934, no. 693, p. 1–25.)

Contains a discussion of this family of wolf spiders, a key to nearctic species of the genus Arctosa and a systematic list of 58 (11 new) with synonyms, descriptions and records of specimens. At least seven of the species are native to Alaska, northern Canada and Baffin Island.

Copy seen: DGS.

45087. GESSAIN, ROBERT, 1907 - Statuettes eskimo composites à trois personnages. (Société des Américanistes. Journal, nouvelle série, 1955. t. 44, p. 199–204, illus.) 3 refs. Text in French. *Title tr.*: Composite three-figured Eskimo statuettes.

Describes two unique composite statuettes acquired by the author at Kumiut and Kulusuk in the Angmagssalik district of East Greenland during the French Trans-Greenland expedition in summer 1936. Probably of recent workmanship, the two (aprox. 12 cm. high) driftwood figurines are composed of a female bust with smaller inserted, yet detachable, male and child busts. The two sculptured groups are discussed and compared with a five-headed figure found in Alaska (No. 7230). The facial tattooing of all heads and the deformed, mask-like features of the Kulusuk group are noted; a relationship to the "mors de danse" masked performances is suggested.

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45088. GHIGLIONE, ANGELO F. Highways, bridges, and protection from ice damage. [Washington, D. C.] 1956. iii, 7 p. (In: U. S. Office of Naval Operations. The dynamic North, v. 2, no. 10.)

Describes location, construction, and maintenance procedures evolved and currently practiced by the Alaska Road Commission. Both preventative and control methods for handling ice have been developed. Where possible, permafrost is avoided, southern exposures are selected, and locations above stream icing elevations are chosen. The most frequent form of icing, that resulting from effluent seepage, can be controlled by ice fencing.

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45089. GHINOZZI, G. P. Influenza del prednisone nell'ipotermia corporea provocata da freddo. (Rivista di medicina aeronautica, 1956. v. 19, no. 3, p. 476-85, illus., tables.) 16 refs. Text in Italian. Summary in English. *Title tr.:* Influence of prednisone on hypothermia induced by cold.

Report on experiment with rabbits exposed to cold  $(-20^{\circ} \text{ C.})$ . Untreated animals showed an average drop in rectal temperature of 5.75° C. and a drop of about 50 percent in the 17-ketosteroids of the blood. Animals given prednisone showed negligible drop in core temperature and in the 17-ketosteroids.

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45090. GHIRINGHELLI, C., and L. LEVI. Attività neurovascolare in soggetti normali e simpatectomizzati; dimostrazione di un riflesso vasocostrittore cutaneo controlaterale da stimolo freddo localizzato. (Giornale italiano di dermatologia e sifilologia, 1955. v. 96, fasc. 6, p. 664–77, illus.) 11 refs. Text in Italian. Summary in English. Title tr.: Neurovascular activity in normal and sympathectomized subjects; demonstration of a vasoconstrictory skin reflex, contralateral to a local cold stimulus.

Changes of temperature were observed in symmetrically collateral areas, when certain regions of the limbs were cooled. Thoracolumbar gangliectomy inhibited the phenomenon on the operated side. The nature of the phenomenon is discussed.

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45091. GIAJA, JEAN, and J. RADU-LOVIĆ. De l'action stimulante cardiaque du sang de l'organisme en profonde hypothermie. (Académie des Sciences, Paris. Comptes rendus 1956. t. 245, no. 20, p. 1465-67.) 7 refs. Text in French. Title tr.: Heart-stimulating action of blood from an organism in deep hypothermia.

Contains a review of stimulant activities

produced by the organism by apparent release of some substances into the blood and a report on the stimulating action of blood from deeply hypothermic rats upon the heart of other rats. The significance of this phenomenon is discussed.

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45092. GIAJA, JEAN. Hypothermie et hypométabolisme. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 4, p. 649-52, illus.) 5 refs. Text in French. *Title tr.*: Hypothermia and lowered metabolism.

Contains a discussion of various degrees and forms of hypothermia. From the point of view of metabolism, the author distinguishes two phases in hypothermia achieved by cold or confinement of rats, (1) a hypermetabolic, and (2) a hypometabolic. The limit between the two is at about 23° C. core temperature. Similar aspects of pharmaco-dynamic hypothermia are also discussed.

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45093. GIAJA, JEAN, and L. MARKO-VIČ-GIAJA. Les hypothermies primaires et secondaires. (Société de Biologie, Paris. Comptes rendus 1955. t. 149, no. 23-24, p. 2073-75.) 10 refs. Text in French. *Title tr.:* Primary and secondary hypothermias.

Authors distinguish two types of induced hypothermia: primary, caused by lowering of thermogenesis; secondary, caused by increased thermolysis. To the first group belong hypothermias provoked by hypoxia, hypoxia-hypercapnia (or restraint), hypercapnia, insulin, or hormones. The second is caused by cold or chlorpromazine. Hypothermia of hibernation is of a primary type.

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45094. GIAJA, JEAN, and L. MARKO-VIČ-GIAJA. Sur l'intensité des échanges et la réaction au froid dans différentes hypothermies. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 1, p. 9-11, illus.) 3 refs. Text in French. Title tr.: The intensity of metabolism and the reaction to cold in different hypothermias.

A comparative study on O<sub>2</sub>-consumption in rats submitted to the action of cold, confinement, Harmine, Largactil and insulin. For further comparison, normal animals and such submitted to above stimuli in an ambient temperature of 15° C. were used. At a certain degree of lowered body temperature (±30° C.)

O<sub>2</sub>-consumption varied in the different groups. Copy seen: DNLM.

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45095. GIAJA, JEAN, and J. RADULO-VIĆ. Survival of the heart following deep hypothermia. (Nature, Dec. 8, 1956. v. 178, no. 4545, p. 1286.) 5 refs.

Account of experiments demonstrating that deep hypothermia favors the survival of organs. When rats at normal temperature are killed and their chest opened, the heart ceases to beat after several minutes; when such rats are cooled, cardiac contractions can be elicited 6-12 hr. later in about half of them. When deeply hypothermic rats were killed and kept at 6°-9° C. ventricular contractions could be induced even several days after death.

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45096. GIANNINI, AMEDEO. Il Mediterraneo artico. (Universo, July-Aug. 1949. Anno 29, no. 4, p. 383-93, 2 maps (1 fold.)) 23 refs. Text in Italian. *Title tr.:* The arctic Mediterranean.

The Arctic Basin is considered as a mediterranean sea in relation to arctic land areas. The question of sovereignty is discussed, with attention to the various political "sectors": U.S. (Alaska), Canadian, Danish, Norwegian, and Soviet. The strategic importance of the Arctic Basin, air bases of the various nations, etc., are also considered.

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GARAKAN, G. A., see Ambartsumfan, G. A., and others, Novyl tip shugosbrosa. 1956. No. 43607.

45097. GIBSON, ALICE G. Story of the McKee Trophy: A. D. McLean, 1941. (Canadian aviation, Feb. 1951. v. 24, no. 2, p. 33, 58, illus.)

The trophy for 1941 was awarded to A. Daniel McLean in recognition of his many years of notable service to Canadian aviation, particularly in the development of a national airway. In 1935 he was in charge of a survey for a possible airway system through northwest Canada into Alaska as well as along the Mackenzie to Coppermine and the Yukon. A brief biography is included.

Copy seen: DLC.

**45098. GIBSON, ALICE G.** Story of the McKee Trophy: A. M. Berry, 1936. (Canadian aviation, Oct. 1950. v. 23, no. 10, p. 28–29+, illus.)

A. Massey "Matt" Berry received the award for 1936 in recognition of northern transportation flights which he made in Alberta and Northwest Territories including several to the arctic coast. A number of these flights are recounted, and a brief biography is included.

Copy seen: DLC.

45099. GIBSON, ALICE G. Story of the McKee Trophy: C. H. Dickins, 1928; W. R. May, 1929. (Canadian aviation, June 1950. v. 23, no. 6, p. 23-24+, illus.)

Brief biographies are presented of the award winners for 1928, C. H. "Punch" Dickins, and for 1929, W. R. "Wop" May. Dickins logged over a thousand hours flying time in northern Canada in 1928 and flew the first airmail into Fort Resolution, N. W. T., and Fort Simpson, in Jan. 1929. May performed many pioneering exploits and mercy flights into the far North: from Edmonton, 1929, to Fort Vermilion with diphtheria antitoxin, etc. In Dec. 1929, he flew one of the planes which inaugurated contract airmail service to Aklavik.

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45100. GIBSON, ALICE G. Story of the McKee Trophy: G. W. G. McConachie, 1945. (Canadian aviation, May 1951. v. 24, no. 5, p. 41+, illus.)

The trophy for 1945 was awarded to Grant McConachie for the principal achievement of pioneering air services between Edmonton and Whitehorse in the Yukon in 1937. He was the first to inaugurate radio compass flying in northern Canada. He is currently president of Canadian Pacific Air Lines. A brief biography is included.

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45101. GIBSON, ALICE G. Story of the McKee Trophy: M. Burbridge, 1932; W. E. Gilbert, 1933. (Canadian aviation, Aug. 1950, v. 23, no. 8, p. 20-21, 44, 46, illus.)

Brief biographies are presented of the award winners for 1932, Maurice Burbridge, and for 1933, Walter E. Gilbert Burbridge, in 1929, assisted with the inauguration of the Mackenzie River airmail service and made three pioneer flights into the north. Gilbert received the award in recognition of his exploratory flights in northern Canada. In the late summer of 1930, he piloted an exploratory flight to Fort Norman and across Great Bear Lake to the arctic coast at the mouth of the Coppermine River to investigate reports that remains of the Franklin

Expedition had been found and to photograph the coast.

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**45102. GIBSON, ALICE G.** Story of the McKee Trophy: T. M. Reid, 1942–43. (Canadian aviation, Mar. 1951. v. 24,

no. 3, p. 26+, illus.)

The trophy for 1942 and 1943 was awarded to T. M. (Pat) Reid in recognition of 20 years' service in aviation. In 1928–30, he was in charge of Northern Aerial Mineral's Exploration Co. surveys on flights to east and west coasts of Hudson Bay, the arctic coast of Canada, Great Bear Lake, and the Mackenzie River areas. An excerpt from his report is included describing a portion of the Eielson Relief Expedition, in which he located the plane wreckage and returned the bodies of Eielson and Borland from the Siberian arctic coast.

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45103. GIBSON, ALICE G. Story of the McKee Trophy: T. W. Siers, 1940. (Canadian aviation, Jan. 1951. v. 24,

no. 1, p. 29-30, illus., diagr.)

The Trans-Canada (McKee) trophy for 1940 was awarded to T. W. Siers. His outstanding contribution to aviation was the development of an oil dilution system for cold-weather starting of aircraft engines which simplified civil air operations in the North. A diagram of the oil dilution system is included. Mr. Siers' activities in Canadian aviation from 1922 are sketched. Copy seen: DLC.

GIBSON, WILLIAM, see Gates, O., and W. Gibson. Interpretation . . . configuration . . . Aleutian Range. 1956. No. 45044.

**45104. GIDDINGS, JAMES LOUIS, 1909-** . The burin spall artifact, (Arctic, 1956. v. 9, no. 4, p. 229–37.

3 illus., diagr.) 13 refs.

Old World burins, discovered in the northern Bering Sea area in 1948, subsequently have been found widely distributed in earlier sites in interior and eastern arctic America. Those of the Denbigh Flint Complex in Alaska are most varied in form. Burin spalls, thin slivers struck or pressed from burins, appear to have been used as tools themselves (over 200 from Denbigh) probably for engraving. Spalls collected in Greenland show similar characteristics.

Copy seen: DLC.

45105. GIDDINGS, JAMES LOUIS, 1909 A flint site in northernmost Manitoba. (American antiquity, Jan. 1956. v. 21, no. 3, p. 255–68, illus., maps.) 38 refs.

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Describes Aug. 1953 microflint finds at the Thyazzi site (approx. 58°50' N. 95° W.) on North Knife River: burins. blades, drills, scrapers, etc. The implements are compared with other microblade sites in the Arctic and sub-Arctic (map p. 224), the absence of polished slate artifacts is noted and a pre-Dorset classification for the North Knife River and Sarqaq (West Greenland) sites is suggested. The question of Indian or Eskimo origin of the Knife River flints is left open. The site is described; also a trip in July up the lower Maguse River in Keewatin (approx. 61°21' N.) where no extensive flint sites were discovered, but recent and early habitation remains, and a few blades recalling those of early sites in Alaska and Mackenzie District were found. Copy seen: DLC.

45106. GIDDINGS, JAMES LOUIS, 1909- "Pillows" and other rare flints. (Alaska. University. Anthropologica papers, May 1956. v. 4, no. 2, p. 117–20,

illus.) 2 refs.

Discusses in turn the functional purpose of three unusual bifaced flint types discovered at various times at Cape Denbigh, Point Hope and Point Barrow (Alaska): "pillow"-like flints flaked on all four edges, a four-pronged implement of translucent chalcedony and a broken, probably bi-pronged, red jasper object. The help of x-ray photography in determining the shape of flints imbedded in the original matrix is stressed and exemplified by radiographs of harpoon heads with inserted side blade flints of the "pillow" variety. Copy seen: DLC.

GIESECKE, F., see Blanck, E., and others. Beiträge zur chemischen Verwitterung auf Hindö . . . 1928. No. 44052.

**45107. GIFFORD, G. D.** Crash and **survive**, or stranded Cheechako. [Montgomery, Ala., Maxwell Field, Air University, ca. 1950.] 8 l. typescript.

Survival techniques for air crews forced down in the Arctic are outlined briefly and discussed. The necessity for survival training is noted, and chance of survival following successful crash landings is indicated as favorable.

Copy seen: AMAU.

45108. GIGANTE, D., and G. TORL-ONTANO. Sul comportamento della temperatura del midollo osseo nell' immobilizzazione generale e in corso di accessi convulsivi. (Rassegna di fisiopatologia clinica e terapeutica, Jan. 1956. anno 28, fasc. 1, p. 9-12, illus.) 2 refs. Text in Italian. Summary in English. Title tr.: Behavior of bone marrow temperature during general immobilization and during convulsions.

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Account of observations on bone marrow temperature as compared to that of intestine and muscle. Only during the end-phases of hypothermia caused by restraint was there a greater drop in bone marrow temperature than in the other two organs.

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45109. GIGANTE, D., and G. TORL-ONTANO. Sulla temperatura del midollo osseo in condizioni di normalità e di ipoplasia e iperplasia sperimentali (Rassegna di fisiopatologia clinica e terapeutica, Jan. 1956. anno 28, fasc. 1, p. 1–8, tables.) 2 refs. Text in Italian. Summary in English. Title tr.: The temperature of bone marrow under conditions of normalcy and of experimental hypo- and hyperplasia.

In normal rabbits the femoral bone marrow showed values slightly lower than those of the intestine, and in the same bone there was a decrease in a proximodistal direction. In marrow made hyperor hypoplastic temperature variations were insignificant.

Copy seen: DNLM.

GILBERT, CHARLES HENRY, 1859–1928, see Jordan, D. S., and C. H. Gilbert. Notes . . . fishes . . . Pacific coast . . . 1881. No. 45829.

**45110. GILBERT, JAMES E.** Medical services in cold weather warfare. (Canadian services medical journal, Oct. 1956. v. 12, no. 9, p. 758–67, illus., tables.)

Contains information on equipment and its transportation; organization of casualty collecting posts and field surgical teams; care of the casualty (first aid, protective clothing and bags, evacuation); role of aircraft in supply and evacuation; general directives.

Copy seen: DNLM.

45111. GILES, STUART. Experimental work deals with arctic and antarctic construction problems. (BuDocks technical digest, Nov. 1956. no. 72, p. 7-13, illus., diagrs.) 4 refs.

Contains a discussion of the causes of damage to utility pipelines and buildings in areas of snow, ice, and permafrost. A new protection scheme, termed the Thermal Balance System, is described which utilizes a refrigerated brine piping system as a heat collector. The principle of maintaining the thermal balance of the soil by this system is practical and may help solve some of the difficult construction problems in cold areas.

Copy seen: DLC.

45112. GILES, STUART. A proposed system of building construction on snow, ice, and permafrost. Port Hueneme Calif., Jan. 16, 1956. 10 p. illus., diagrs., graph. map (U. S. Naval Civil Engineering Research and Evaluation Laboratory, Project NY 000 003. Technical note N-239.) 3 refs.

The basic problem in protecting structures supported by permafrost or ice is maintaining the supporting material in its original frozen condition. This report discusses the theory of the thermal balance system which uses refrigerated brine as a heat collector, and some tests and their results. The equipment consists essentially of a brine chiller, a brine circulating pump, and brine tubing installed between the frozen under-surface and fill-type insulation below the structure. A map of Alaska is included showing the estimated month/year requiring mechanical refrigeration to chill the brine. Copy seen: DN-YD.

45113. GILES, STUART. A proposed system of utility piping installation in snow, ice, and permafrost. Port Hueneme, Calif., Jan. 16, 1956. 6 p. illus., diagrs., graphs, map. (U. S. Naval Civil Engineering Research and Evaluation Laboratory. Project NY 550 010-4. Technical note N-261.)

The causes of damage to utility pipelines and buildings in permafrost, snow, and ice areas are outlined, and the results of laboratory investigations of a new method of protection are reported. method is the Thermal Balance System, which uses piped regrigerated brine as a heat collector. The equipment consists essentially of a refrigeration machine, a brine-circulating pump, and a system of brine pipes installed outside the insulation of hot-water or steam mains, or between the frozen soil and fill-type insulation below the floor of buildings. The study showed that the principle of maintaining the thermal balance of soil with a brine system is practical, and may solve some of the more difficult construction problems. Data are given on heat losses from steam pipes and heat gains by the brine with varying pipe arrangements, and the annual settlement of a building on ice. A map of Alaska showing the estimated months per year requiring mechanical refrigeration for chilling brine for the Thermai Balance System is included.

Copy seen: DLC.

45114. GILL, JOHN CHARLES, 1918—. Geology of the Waskaiowaka Lake area, Cross Lake mining division, Manitoba. Winnipeg, King's Printer, 1951. 41 p. 2 illus., fold. map 30 x 33 in., tables. (Manitoba. Dept. of Mines and Natural Resources. Mines Branch. Publication 50–5.) 5 refs.

Map (scale 1 in.: 2 mi.) covers the area 56°00'-46' N. 9t6°-97° W. Mapping was done June-Sep . 1950. Means of access, topography, and drainage are briefly described. Consolidated rocks, all Precambrian, consist of interbanded sedimentary and volcanic types intruded by numerous masses of felsic to ultramafic igneous rocks. Most rocks are highly metamorphosed and, except for some of the intrusives, are commonly gneissic, Granitization studies are discussed. The entire area has been subject to repeated folding, faulting, and igneous intrusion. Some of the structures are described; also gold and nickel occurrences.

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45115. GILL, THEODORE NICHOLAS.
1837-1914. Bibliography of the fishes of the Pacific coast of the United States to the end of 1879. Washington, D. C., U. S. Govt. Print. Off., 1882. 73 p. (U. S. National Museum. Bulletin 11.)
Lists chronologically some 500 books

and papers, including some on fishes of Alaska and Bering Sea.

Copy seen: DLC.

45116. GILL, THEODORE NICHOLAS. 1837–1914. Notes on the structure and habits of the wolf-fishes. (U. S. National Museum. Proceedings, Jan. 9, 1911. v. 39, no. 1782, p. 157–87, plates 17– 28.) 59 refs.

Contains data on structural characteristics of the Anarrhichadoid fishes, keys to the genera and species and an annotated list of five species. Anarrhichas lepturus (Aleutian Islands), A. orientalis (coast of Kamchatka) and Anarrhichthys ocellatus from Alaska to Monterey) are

included. The second part of the paper (p. 172-82) deals with the habitats and habits of these fishes.

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GILLESE, J. P., see Northern affairs bulletin. 1956- in progress. No. 47091.

45117. GILLETT, L. B. Anorthosites and syenites of the Mealy Mountain area, Labrador. (Canadian mining journal, Dec. 1956. v. 77, no. 12, p. 91.) Abstract of unpublished M. Sc. thesis presented to McGill University, 1956.

In the western Mealy Mts. (53°20′ N. 59°30′ W.) anorthosite consists of coarse gray andesine or labradorite grains rich in unmixed material. A yellowish-weathering green syenite consisting of an unmixed intergrowth of sodic and potassic feldspars separates the anorthosite from granitic gneisses. The syenitic and anorthositic magmas were differentiated from one another while still chiefly liquid.

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45118. GILLHAM, NICHOLAS W. Nymphalis vau-album (Schiffermuller & Denis), a holaretic species; Lepidoptera: Nymphalidae. (Psyche, Mar. 1956. v. 63, no. 1, p. 27–29.) 2 refs.

Contains taxonomic notes, synonymy and distributional data on this species, ranging in the Old World from southeastern Europe eastward across Asia to Kamchatka; it is found also in North America from Alaska and Labrador southward to Utah and West Virginia.

Copy seen: DA.

GILLILAND, P. F., see Nakai, J., and others. Thermal stress and tissue culture, 3 . . . freezing media. 1954. No. 46930.

GILLILAND, P. F., see also Pomerat C. M., and others. Thermal stress and tissue culture, 4; the intensity-time factor. 1954. No. 47399.

45119. GILMORE, RAYMOND MAURICE, 1907— Rare right whale visits California. (Pacific discovery, July-Aug. 1956. v. 9, no. 4, p. 20-25, illus., text map.) 3 refs.

The first right whale to appear off the California coast since 1924 was seen from Scripps Institution of Oceanography at La Jolla, Mar. 31, 1955. Its appearance, world-wide distribution and historical importance of the species are noted.

Summer feeding grounds of the "northwest right whale" are in the Gulf of Alaska and southeast Bering Sea.

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**45120. GINDIN, A.** V moroz, v purgu. (Sovetskii soûz, Mar. 1956, no. 3 (73), p. 14−15, illus.) Text in Russian. *Title tr.:* In frost and in blizzard.

Note on winter work at the Bratsk hydro-electrical station on the Angara, by the chief construction engineer; good illus. **Copy seen:** DLC.

45121. GINKO, SERGEĬ SERGEE-VICH. Vodnoėnergeticheskie bogatstva SSSR, ikh izuchenie i ispol'zovanie. Leningrad, Gidrometeorologicheskoe izdvo, 1955. 196 p. illus., graphs, diagrs., tables, maps. 37 refs. Text in Russian. Titte tr.: Water-power resources in the U. S. S. R., their exploration and utilization.

Contains seven chapters dealing: with the history of water-power development (p. 14–25), the resources and extent of their utilization (p. 26–79), influence of river regime on power development (p. 80–98), the modern hydro-electric station (p. 99–123), and effect of large installations on river hydrology (p. 124–46); hydraulic engineering in foreign countries (p. 147–74), and the outlook for water-power development in the U. S. S. R. (p. 175–92).

The power potential of the 1500 largest rivers of the U.S.S.R. is estimated at 345 million kw., with an annual output of 2700 billion kw-hr., 15 percent of world resources; the annual power potential of Siberian rivers is estimated at 1137 The river systems of the billion kw-hr. U. S. S. R. are characterized and data presented for the principal rivers on: drainage area, length, gradient, average discharge with annual and seasonal fluctuations, evaporation and amount of The drainage area of rivers sediments. flowing to the northern seas amounts to 23 percent of the European, and 68 percent in the Asiatic part of the U.S.S. The main rivers discharging into the arctic seas are characterized (p. 28-36-43, 66-79, 91). Ice formation and ice cover are discussed (p. 93-97) in relation to power development.

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45122. GINZBURG, B. M. O metodike dolgosrochnykh prognozov zamerzaniâ i vskrytiâ rek. (Meteorologiâ i gidrologiâ, Feb. 1956, no. 2, p. 10–14, table.) 14 refs. Text in Russian. *Title tr.:* Methods of long-range forecasting of freezing and opening of rivers.

The principles of forecasting ice conditions in rivers as a phenomenon associated with heat exchange between the air and water are briefly outlined. The accuracy of forecasts issued 1941–1953 for west Siberian and European U. S. S. R. rivers is discussed. The accuracy of predicted dates of river freezing and opening varied from 50–98 percent.—From SIPRE.

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45123. GIONO, HUMBERT, and L. CHEVILLARD. Influence del l'exposition prolongée au froid sur la vasomotricité du cobaye. (Journal de physiologie, 1956. t. 48, no. 3, p. 558-61, illus.) 14 refs. Text in French. Title tr.: The influence of long exposure to cold on vascular motility in the guinea pig.

Report on surface tempe ature records in animals exposed for six months to cold, as compared with non-adapted animals. The body temperature (and circulation) were studied at environmental temperatures of 8 and 25° C. The cold-adapted (acclimatized) animals showed in all cases higher body temperatures and more active circulation indicating a better development of physical thermoregulation.

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GIONO, HUMBERT, see also Chevillard, L., and others. Activité physiologique du rat refroidi . . . effets . . . adrénaline. 1955. No. 44334.

GIONO, HUMBERT, see also Chevillard, L., and others. Variations de la sensibilité douloureuse . . . 1956. No. 44335.

45124. GIPPENREÏTER, V. Po sledu. (Smena, May 1956, god 33, no. 9, p. 24, illus.) Text in Russian. *Title tr.:* On the trail.

A bear-hunting adventure in the coastal area of White Sea.

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45125. GIRGOLAV, S. S., and T. A. ACHKASOVA. O temperaturnom rezhime tkanel pri nalozhenii zhguta. (Khirurgifa, 1956. god 32, no. 4, p. 62-65.) 8 refs. Text in Russian. *Title tr.:* Temperature conditions in tissues during application of a tourniquet.

Application of a tourniquet to rats kept a room, or high temperature (±40° C.) caused a drop in temperature of the extremity affected. Pathological

changes, especially necrosis were also followed during and after application.

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45126. GIROUD, A., and M. MARTINET. Hypovitaminose et hypervitaminose A chez le jeune et chez l'embryon. (Études néo-natales, 1956. v. 5, no. 2, p. 55-68, illus.) 42 refs. Text in French. Summary in English. *Title tr.*: Hypovitaminosis and hypervitaminosis A in the young and the embryo.

Includes a detailed account on the effects of excessive intake of this vitamin especially in osteogenesis and in secretion of cerebral fluid. Depending on the time of vitamin administration, anomalies appeared in the following order: anencephaly with hydramnion; anophthalmia or microphthalmia; spina bifida; cleft palate; lid aplasia; syndactyly; median inferior cleft; ear anomalies and finally cataract. The percentual incidence of the various anomalies is also discussed.

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45127. GIRS, A. A. Interrelation of processes in the atmosphere and hydrosphere. [Washington, D. C.] 1956. v, 45 p. maps, table. (In: U. S. Navy. Office of Naval Operations. The dynamic North. v. 1, no. 15.) 11 refs. Literal translation of the author's text by Nina A. Stepanova.

Changes in large-scale atmospheric circulation patterns are explained on the basis of changes in surface temperature conditions. This interrelation of circulation patterns is mapped. The general ice conditions which accompany each of the major types of circulation are described briefly.

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GITZ-JOHANSEN, AAGE, 1897–, see Lund-Drosvad, A. Hvidfiskefangsten ved Prøven. 1952. No. 46480.

45128. GIUSTINA, G., and G. MES-CHIA. La regolazione del pH nell' organismo in ipotermia. (Archivio di fisiologia, 1956. v. 56, fasc. 2, p. 173-78, tables.) 8 refs. Text in Italian. *Title tr.*: Regulation of pH in the hypothermic organism.

Account of investigation on the pH and CO<sub>2</sub> concentration in the plasma of hypothermic (21° C.) as compared with normothermal rabbits. The pH of the blood and P<sub>CO2</sub> showed little change between the two groups; the concentration of physically dissolved CO<sub>2</sub> increased

1.6 times, that of bicarbonate ions 1.3 times in the cooled animals.

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45129. GJÆREVOLL, OLAV. Contribution to the ecology of Carex bicolor All. in Scandinavia. (Norske videnskabers selskab, Trondheim. Forhandlinger, 1950. Bd. 23, no. 4, p. 11–15, text map.) 6 refs.

Contains notes on occurrence of this sedge on Vassitjåkko and Låktatjåkko, mountains in Torne Lappmark, Sweden; with a tabular analysis of its plant communities (70 species.)

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45130. GJÆREVOLL, OLAV, and R. JØRGENSEN. Fjellflora. Utg. av Trondhjems turistforening. Trondheim, F. Brun, 1952. 160 p., illus. 10 refs. Text in Norwegian. *Title tr.:* Mountain flora. Published by the Trondheim Tourist Association.

Contains brief descriptions (habitat, elevation in Norway, distribution elsewhere, common Norwegian and scientific names) of 150 alpine plants. Each is illustrated in color by Dagny Tande Lid. The plant roster is introduced (p. 3-18) by discussion of the general characteristics of alpine flora, their biology and growth habits, the migration problem and geographic distribution, and plant associations. Some arctic plants in Norway are found from the southern end of the highlands to the northernmost peninsula; others are confined to the Jotunheim-Dovrefjell-Trollheim tract or to the northern Norse-Swedish border mountain chain, largely north of the Arctic Circle, or to both these higher regions.

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45131. GJÆREVOLL, OLAV. Glyceria grandis S. Wats. som mølleplante i Norge. (Blyttia, 1955. bd. 13, hefte 4, p. 109–112, illus.) 3 refs. Text in Norwegian. Summary in English. Title tr.: Glyceria grandis S. Wats. as a ruderal species in Norway.

Contains a report of two localities for this North American species (Alaska), both situated near mills, one at Moss in southern Norway, the other at Buvik in Trøndelag, northern Norway. Most certainly G. grandis has been introduced into Norway with grain imported from North America. Copy seen: DLC.

45132. GJÆREVOLL, OLAV. The plant communities of the Scandinavian

alpine snow-beds. Trondheim, F. Bruns bokhandel, 1956. 405 p. 75 illus., incl. text map, 64 tables. (Norske videnskabers selskab, Trondheim. Skrifter, 1956, no. 1.) 128 refs.

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Results of a survey carried out during ten summers (1944-55) covering most of the Scandinavian mountain range from the Voss-Vik Mts. in the south to Varanger Peninsula in the north (cf. text map). Methods (sociological analyses of quadrates 1/4 m.2) are explained and the sociological classification is discussed. Tabular analyses of various plant communities are presented and discussed (p. 35–400). A précis of the snow-bed communities is given with dominant plant forms (table 64). The alliances are grouped in relation to three principal ecological factors which are decisive for the composition of the plant communities, viz. duration of snow cover, lime content of the soil, and supply of water. Copy seen: DLC.

45133. GJÆREVOLL, OLAV. Problems of plant distribution in the White Mountains in central Alaska. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 159–62.)

Author spent summer 1953 in the White Mts. (65°15" N. 146° W.) and Alaska Range analyzing plant communities and undertaking a floristic study. Species found (listed) were mostly circumpolar; several had not been known previously in interior Alaska or known in only a few localities. Geology of the White Mts. is varied, limestone areas being of greatest interest. Most limestone plant communities belong to the heath type; rockslide communities also exist. Species composing both limestone and granite communities are noted, and comparisons made with Scandinavia. New records fill gap in distributional area between the arctic coast-Bering Strait and the Yukon. Copy seen: DGS.

**45134. GJÆREVOLL, OLAV.** Trøndelagsavdelinga. (Blyttia, 1953. bd. 11, hefte 1, p. 30–32.) Text in Norwegian. *Title tr.:* The Trøndelag division.

Includes account of an excursion of this branch of the Norwegian Botanical Association, July 19–29, 1952, from Trondheim to Abisko, Sweden, and to Nordreisa in northern Norway, where, on Bihka Hihtama there is a rich mountain flora. Botanical species from several localities are identified.

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45135. GJELSVIK, TORE. Pre-glaciale forvitringsfenomene i kopperforekomster i den syd-vestlige del av Finnmarksvidda. (Geologiska föreningen, Stockholm. Förhandlingar, 1956. bd. 78, nr. 487. häfte 4, p. 659–65, 4 illus., text map.) 5 refs. Text in Norwegian. Summary in English. Title tr.: Pre-glacial weathering in copper deposits in the southwestern part of the Finnmark expanse.

Oxidation-cementation zones of bornite-chalcopyrite deposits, occurring in a great breccia in the southwest part of Finnmark, northern Norway, are described. The supergene minerals are: chalcocite, covellite, malachite, chrysocolla, chalcedone, limonite, and chlorite. The rare deposits are related to copper deposits in the Norrbotten district of northern Sweden in which similar oxidation zones are also found. Reasons for the preservation are briefly discussed.

\*\*Copy seen: DGS.\*\*

45136. GJESSING, GUTORM, 1906—. Fangstfolk; et streiftog gjennom nordnorsk førhistorie. Oslo, H. Aschehoug & Co., 1941. 142 p., illus., plates. Text in Norwegian. *Title tr.:* Hunters; a foray through north Norway's early

history.

Based on miscellaneous lectures at the Tromsø Museum during 1936-40, this book is concerned mainly with demonstrating that early man in northern Norway had arctic rather than Scandinavian culture, as is true to large extent today. Hunting, always the dominant occupation, has also dominated the culture of the various ages. Differences in early coastal and interior Lapp tribes and the influx of Norwegians and Finns in both locations, raise questions of racial origins and purity. Specific topics treated in the eight chapters include: the first and later hunting folk; the late stone age finds at Traena; the arts and skills of hunters; the present people; the boat and its early development without wood; the coming of the south Norwegian and the introduction of agriculture; and cultural and economic changes in Viking times when whaling and sealing began in the Arctic and exploration extended as far as the province of Perm in Russia.

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45137. GJESSING, GUTORM, 1906— Krigen og kulturene; den kvite mann og naturfolkenes krig. Oslo, Gyldendal, 1950. 136 p., 42 refs. Text in Norwegian. Title tr.: Conflict and culture;

the conflict of the white man and native

people.

In an attempt to explain recent ethnographic and sociologic thinking on the problems of colonial peoples, certain culture traits of Eskimos, Lapps, and other tribal groups are contrasted with what is known as western civilization, cf. p. 74, 78, 102, 106, etc. In his efforts to raise native living standards, the white man sometimes set intolerant goals over the preservation of the good in colonial cultures. Need is stressed for social sympathy, and respect for native rights and cultures.

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45138. GJESSING, GUTORM, 1906-

Mennesket og kulturen. Oslo, Gyldendal Norsk forlag, 1953. 2 v.: 297, 362 p., illus., plates. 28 refs. Text in Norwegian. *Title tr.:* People and culture.

In v. 1, "A comparative ethnography," writer appraises ethnographic research, its shortcomings, difficulties, and values; relates culture to the natural conditions under which it arises; criticizes some features of western culture, challenges the idea of primitive minds, and the association of race and culture. He discusses in turn, home and dress, occupations, wanderings of tribal groups, and the relationships within groups in all forms of family and social life; with reference throughout to arctic among other peoples.

Vol. 2, a regional study entitled, "Culture forms," deals with northern cultures in chap. 4, including the Netsilik Eskimo (p. 271-87), a group of the nomadic Lapps of northern Norway (p. 287-304), and the Yakut herders in northern

Siberia (p. 304-318).

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45139. GJESSING, GUTORM, 1906—Traen-funnene. Med bidrag av Ole T. Grønlie, Oluf Kolsrud og K. E. Schreiner. Oslo, H. Aschehoug & Co.; Cambridge Mass., Harvard University Press, 1943. 4 p. l., 234 p., illus., diagrs., tables, 52 plates (1 fold.). (Instituttet for sammenlignende kulturforskning. ser. B, Skrifter 41.) 99 refs. Text in Norwegian. Title tr.: The Traena finds. With contributions by Ole T. Grønlie, Oluf Kolsrud, and K. E. Schreiner.

Archeological finds from Traena, an islet approx. 66°30′ N. 12° E., include dwellings, bone, stone, and metal weapons and equipment, potsherds, jewelry, shells, and skeletons. They have been typed, the chronology and relation to geologic

events and conditions established. The geographic setting of this and adjacent islands, the bedrock, Glacial and recent geology, economy, population changes, communications, and influences of an outside nature, etc., are sketched.

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The section on archeological forms and chronology (p. 89-139), distinguishes cultures from early stone age to the Middle Ages. Traena finds are compared to tribal materials from other locations in Finnmark and Nordland, Siberia, and North America. Discussion of hunting people on Traena (p. 140-58), includes reference to a whalebone hut and tent construction type that is unique to Lapps and still in use (cf. No. 30372), and compared to Eskimo use of whalebone construction near Bering Sea (No. 12177). The present north Norwegian people are seen as a complex blending of groups, varying in origin, time, culture, and effect. Copy seen: DLC.

45140. GLAZOV. A. N. Ispol'zovanie radioaktivnykh izotopov v praktike inzhenernykh izyskaniľ. (Gidrotekhnika i melioratšifa, Sept. 1956. t. 8, no. 9, p. 13–19.) 14 refs. Text in Russian. Title tr.: The use of radioactive isotopes in practical engineering research.

In the broad application of isotopes in the U.S. S. R. (in building machinery, in biology, medicine, metallurgy, etc.), their use is extended to geological and hydrogeological surveys including such in the permafrost regions. Theory, apparatus and methods for X-ray radiation and detection, and for evaluation of intensity of this radiation are briefly described and mathematically formulated. Presence of underground water (hydrogen atoms) can be precisely detected regardless of its state (liquid, gas or solid) and evaluated by an instrument calibrated for ice or snow layers and other materials. This method also can be applied in the study of movements of river sediments, water currents, and in location of petroleum and mineral deposits, and for many other purposes. Copy seen: DLC.

45141. GLEMBOTSKII, A. L., and S. N. POPOV. Ocherk sovremennogo sostofanifa i perspektiv razvitifa skotovodstva v Lenskom i Olekminskom rafonakh fakutskof ASSSR. (Akademifa nauk SSSR. fakutskif filial, Yakutsk. Trudy, 1956. vyp. 1, Materialy o prirodnykh uslovifakh i sel'skom khozfatve filigo-zapada fakutskof ASSR, p. 176–255, illus., graphs, tables.) 13 refs.

Text in Russian. *Title tr.:* Outline of the present conditions and prospects of development of eattle raising in the Lensk and Olekminsk districts of Yakut A. S. S. R.

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Comprehensive study, dealing with the role of cattle breeding in the agriculture and economy of these districts in the middle Lena basin; current methods of upkeep and feeding, calf rearing, herd structure in the kolkhozes, composition with regard to breeds, appearance and productivity as related to racial origin. Conditions of upkeep and feeding are considered, with data on growth and composition of the carcass, weight, seasonal and other fluctuations in milk production, butter content, etc.; and discussion of selection, breeding and feeding. Copy seen: DLC.

45142. GLENNEN, EDWARD J. Design and construction in permafrost regions. (*In*: Alaskan Science Conference . . . 1952. Proceedings, *pub*. 1954. p. 16–18.)

Construction problems associated with permafrost and methods developed for solving them are summarized. The procedures used in site selection, and methods for determining the characteristics of soils underlying a building are outlined. Construction techniques used to date in various types of frozen soil are described briefly, including steam thawing of permafrost and consolidation by blasting, removal of the upper soil layer, pilings, and mechanical refrigeration.

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45143. GLIDDON, WILLIAM GILBERT C. Investigations into the effects of weather conditions on the friction of sleigh runners on snow. [Montreal, McGill University, 1923.] 25 p. 4 illus, diagrs., graphs, tables. Typescript.

Starting and sliding resistances as well as penetrations were studied for four model sleds with wooden (ash) runners of similar bearing areas but with ratios of runner length to width ranging from 2-30. The sleds were pulled by an electric motor for approximately 40 ft. at speeds up to a maximum of 15 mph. and the pull measured with a dynamometer. Each trial (five) is described and results are tabulated. The friction coefficient is apparently independent of loading for ice or hard crust, where there is no penetration, for the range of loads tested (up to 0.7 lb./sq. in.), and increases with loading for soft snow to some limiting value at a slower rate than the loading. A narrow runner has a slight advantage over a wide one on ice and a decided advantage in soft snow. The resistance increases almost linearly with speed on ice or hard crust, but in soft snow there seems to be an optimum speed, above and below which resistance increases.—From SIPRE.

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45144. GLØMME, HANS. Jordbundsundersøkelser i Norge. (Nordisk jordbrugsforskning, 1920. Aarg. 2, hefte 8, p. 332–44, 2 text maps.) Refs. in text. Text in Norwegian. *Title tr.:* Soil research in Norway.

Includes reference to appointment of a soil consultant for northern Norway, and a map showing tracts where detailed soil studies have been made in Nordland and Troms.

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GLORY, ANDRÉ, see Bergounioux, F. M., and A. Glory. Les premiers hommes . . . 1952. No. 43988.

45145. GLUKHOVA, V. M. Parazito-fauna kambalovykh ryb Belogo morfa. (Akademifa nauk SSSR. Karelo-Finskif filial. Trudy. 1956. vyp. 4, ser. parazitologicheskafa, p. 27–49, tables.) 35 refs. Text in Russian. *Title tr.:* The parasites of pleuronectid fishes of the White Sea.

Account based on collections made in Onega, Kandalaksha and Dvinskaya Bays during the summers of 1950 and 1951, and on some material collected in the winter. The taxonomy of the parasites is dealt with, occurrence, size, degree of infection are noted. The parasites of the three common "flounders" are described, including organs affected, degree of infection, etc. The influence of the carrier's age on the parasite fauna and information on the economic significance of these parasites conclude the account. Copy seen: DLC.

GODDARD, T. H., see Sapin-Jaloustre, J., and T. H. Goddard. A French followup... 1956. No. 47790.

45146. GODFREY, W. EARL. Some distributional notes on Canadian birds. (Canadian field-naturalist, July-Sept. 1956. v. 70, no. 3, p. 136–38.) 3 refs.

Contains distributional data on 20 birds, chiefly from Newfoundland and the Gulf of St. Lawrence. The Newfoundland yellow warbler, Dendroica petechia amnicola, from Southampton Island, and the Churchill savannah sparrow, Passerculus sandwichensis oblitus, collected at Reso-

lute Bay on Cornwallis Island, are included. Copy seen: DA.

45147. GODMAN, RICHARD M., and R. A. GREGORY. Soil-site relationships in the climax forest of Southeast Alaska. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 112–14.)

An estimated 75 percent of the commercial forest is of the climax type (productive growth completed). Method of classifying stands is explained; climax characteristics are noted as indicators of future second-growth yield capacity of the land. Preliminary analysis of 250 plots showed that typical acre has many age classes having little or no correlation with diameter or height. Soil samples in the Ketchikan area, were examined: depth of humus layer, depth of mineral soil, and depth of tree rooting are fairly reliable indicators of site quality.

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45148. GODNEV, T. N., and V. M. TERENT'EV. Fiziologicheskie prichiny poleganiä khlebnykh zlakov na torfanobolotnykh pochvakh i mery bor'by s mim. (In: Akademiiä navuk BSSR, Minsk. Instytut meliiäratsyi, vodnal i balotnal haspadarki. Trudy, 1953. t. 2, p. 128–44, tables.) 6 refs. Text in Russian. Title tr.: Physiological causes of the breaking down of grain and cereal stems on peat-bog soils and measures for its prevention.

Various means of strengthening the roots are discussed, including favorable light conditions, mineral feeding and purification of bog water. Phosphates, potassium and sodium salts, which were added to the peat soils and bog water in various proportions, determined experimentally, produced considerable improvement in the stem strength and cropyield.

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45149. GODOVIKOV, V. I. K izuchenifü geologii Kukisvumehorrskogo apatito-nefelinovogo mestorozhdenifa i sortamenta ego rud. (In: Khibinskie apatity, 1933. t. 6, p. 25–29, 14 illus.) Text in Russian. Title tr.: Study of the geology of the Kukisvumehorr apatitenepheline deposits and various types of their ores.

Study of the genesis of the apatite deposits is described. The data of field work are shown on an axonometric projection of the Kirov mine (fig. 1), vertical section and plan (fig. 2). Character of

the structure is discussed with illus. (fig. 3-14). Genesis of the apatite deposits is outlined in reference to subsequent formation and intrusions of the products of post-volcanic processes, fissures. The study of color scale changes in various apatites under heating is suggested. The scale can be used for field macroscopic identification of the apatite by appearance.

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45150. GODSELL, PHILIP HENRY, 1889—. Pilots of the purple twilight; the story of Canada's early bush flyers. Toronto, Ryerson Press, 1955. xii, 225 p. illus., ports. Reviewed by F. H. Ellis in Beaver, Autumn 1956. Outfit 287, p. 58.

Contains 14 sketches in popular style, of flyers and their experiences in northern Canada from the 1920's; among them "Wop" May, Vic Horner, "Punch" Dickins, Con Farrell, and Walter Gilbert. The development of some of these air pioneers beginning with World War I is presented. Stories related include the successful hunt for the "mad trapper of Rat River," the mercy flight to Fort Vermilion in 1929, and the opening of air mail service in the Arctic.

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GODSELL, PHILIP HENRY, 1889—, see also Northern affairs bulletin. 1956 in progress. No. 47091.

45151. GODSON, WARREN L., and C. L. MATEER. The Canadian meteorological programme for the International Geophysical Year. Toronto, Jan. 1956. 10 p. Mimeographed. (Canada. Meteorological Service. Circular 2745, TEC-229.)

Historical background for the IGY is sketched; meteorological research recommended by the Special Committee for IGY (CSAGI), is indicated and its application to Canada discussed. The Canadian program will consist of meteorological and physical observations at a chain of stations near 80° W.: Moosonee, Port Harrison, Coral Harbour, Arctic Resolute, Eureka, Alert; with analysis and evaluation unit in Toronto. Observations will be concerned with general circulation of the atmosphere, atmospheric ozone, and energy budget of the earth-air interface. Preparations and methods are discussed.

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45152. GOGOLEV, Z. V. Pomoshch' russkogo naroda v sofsialisticheskom preobrazovanii sel'skogo khozíkístva fakutii. (In: Akademiâ nauk SSSR. fakutskif filial. Institut fazyka, literatury i istorii. Vedushchafa rol' russkogo naroda . . . , 1955. p. 139–59, tables.) 45 refs. Text in Russian. Title tr.: The aid of the Russian people in the socialist reform of agriculture in Yakutia.

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Compares the industrial and agricultural backwardness under the tsarist regime with the achievements under Soviet rule. Selected statistical data (1914–1954) on trade turnover, collectivization, number of kolkhozes and sovkhozes, agricultural machinery, machine-tractor stations, acreage under cultivation, heads of cattle, etc., are given.

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GOIN, COLEMAN JET, 1911—, see Netting, M. G., and C. J. Goin. The correct names . . . toads . . . 1946. No. 46990.

GOJMERAC, WALTER L., see O'Brien, J. P., and W. L. Gojmerac. Radiosensitivity . . . amphibia . . . temperature . . . 1956. No. 47122.

45153. GOKHMAN, V. M. Geografifa atomnoï promyshlennosti SShA i Kanady. (Akademifa nauk SSSR. Izvestifa, Serifa geograficheskafa, Mar. 1956. no. 3, p. 50–62, map.) 22 refs. Text in Russian. Title tr.: Geography of the atomic industry in the U. S. A. and Canada.

Surveys the geographic distribution of uranium ores and atomic plants in both countries, based on American and Canadian publications. Uranium ore deposits at Great Bear Lake and in other areas of northern Canada are mentioned, p. 60-61.

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45154. GOLD, LORNE W., and G. P. WILLIAMS. Dependence of snowfall on temperature. (Nature, London, June 16, 1956. v. 177, no. 4520, p. 1137-38, diagrs.) 4 refs.

Contains critique of C. L. D'Ooge's and M. Bossolasco's findings that maximum depth of snowfall occurred at a daily mean temperature of -11° C. The dependence was checked by analyzing, on a monthly basis, data collected at an elevation of 7700 ft. on Old Glory Mountain (Can.) 1947-55 and at Montreal in 1951-52. Results show that the greatest amount of snow is likely to come from clouds at temperatures between

-11° C. and -20° C. The majority of snow crystals were irregular assemblages of columns and plates. Conclusions drawn on the basis of details in the observed distributions are speculative due to the difficulty in estimating temperature of formation of the snow and the inconsistency of this temperature throughout a snowfall.

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45155. GOLD, LORNE W. New snow and ice research laboratory in Canada. (Journal of glaciology, Mar. 1956. v. 2, no. 19, p. 635-37, 2 illus., diagr.)

Two cold rooms and associated refrigeration equipment were placed into operation in July 1954 by the National Research Council of Canada. The room for cold weather building research is not described in any detail. The snow and ice cold room measures 22 ft. 7 in. x 18 ft. 11 in. x 11 ft. 9 in. Ventilation is provided at the rate of 30 cu. ft./min. The refrigeration load for both rooms is carried by three identical sets of 2-stage, 30-hp., direct-expansion compressors employing Freon 22 refrigerant. Air circulation and area layout in the snow and ice room are described. The initial research is concerned with measuring the ultimate strengths of ice in tension and compression, and the influence of temperature and loading rate.-From SIPRE. Copy seen: DGS.

45156. GOLD, LORNE W. On the relation of snow to meteorology. Montreal, McGill University, Sept. 1952. 4 p. l., 64 l. illus., diagrs., map, tables. 20 refs. M. S. thesis.

The results of statistical and field investigations in 1951–52 on the relation between snow-crystal types and meteorological conditions are reported in detail, and the methods of study are described. General theories on snow crystals, nucleation, and clustering are reviewed. Observations of crystal types and airmass analysis indicate that a relationship exists between the precipitation arriving at the ground and conditions of initiation and growth of precipitation aloft, the structure of the crystals being dependent on the temperature of the cloud.

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45157. GOLD, LORNE W. The strength of snow in compression. (Journal of glaciology, Oct. 1956. v. 2, no. 20, p. 719–25, text map, graphs, tables.) 8 refs.

Based on data obtained with the Na-

tional Research Council of Canada Snow Hardness Gauge during the snow survey conducted in Canada since 1947. Data (collected at Resolute, Aklavik, Whitehorse, Churchill, Moosonee, and Goose Bay, among other places) are analyzed and related to several parameters. The hardness value is a reasonable measure of the ultimate strength of snow in compression which cannot be accurately determined except by direct measurement. The mean logarithm of this strength property is dependent on the snow density and to a lesser extent on the temperature and crystal size. The indefinite relationships involving the strength are due to the bonding between snow grains which changes with time as a result of thermodynamic forces.-From SIPRE.

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45158. GOLDBERG, LEON I., and K. F. SCHMIDT. Effects of total epidural sympathetic block on cardiac arrythmias developing during hypothermia. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 429.)

Account of experiments which demonstrated that dogs blocked with procaine developed arrhythmias at considerably higher temperatures than animals without such block. Other experiments described showed that arrhythmia develops before myocardial contractility is depressed.

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45159. GOL'DENBLAT, I. I., and others. O snegovykh nagruzkakh po stroitel'nym normam i pravilam. (Stroitel'nafa promyshlennost', June 1956. t. 34, no. 6, p. 25-27, diagrs., graph.) Refs. Text in Russian. Other authors: B. G. Korenev and A. M. Sizov. Title tr.: Snow loads according to the building standards and regulations.

Contains a general analysis of the building code on snow loads developed by the Central Scientific Research Institute of Industrial Construction, on the basis of ten years' observations of structural deformations in various regions. Snow accumulation depends upon the roof slope, projecting structures such as chimneys, ventilation vents, parapets, roofs of adjacent buildings, etc., and upon the velocity and direction of snow fall, also upon some other factors. Analysis of structural stresses was made also without consideration of partial snow removal from the roof, in view of the importance of the increasing density of old snow. Variation in maximum snow load allowed

by the code according to geographic location was also taken into account.

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45160. GOLDSCHMIDT, VERNER. Grønlandske rets- og moralbegreber under omstøbning. (Grønland 1953, hefte 6, p. 209–215, illus.) Text in Danish. *Title tr.:* Greenlandic conceptions of justice and morals in the melting-pot.

Discusses some spheres where old Greenlandic ideas are disappearing under the impact of the new civilization. Formerly no blame was attached to premarital intercourse, or having illegitimate children (204/thousand in 1948): survival was of prime importance, children essential. This attitude is slowly changing with a money superseding a hunting economy. In the old Greenland, there was no need of mutual agreements for cooperation, hence no tradition among Greenlanders for keeping promises. With modern economic development, division of labor, mutual dependence, etc., this circumstance has become a problem.

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45161. GOLDSCHMIDT, VERNER. Retshåndhævelsens problemer endnu engang. (Grønland, Aug. 1956, nr. 8, p. 317–20.) Text in Danish.) Title tr.: The problems of the administration of justice once more.

Notes topics discussed at a meeting of district judges in Godhavn, West Greenland, July 1956. Expansion of the police force, employing Greenlanders, was advocated; also establishment of a remandhome; one at Godthåb accommodates six people.

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45162. GOLDTHWAIT, RICHARD PARKER, 1911—. Meteorology of the Nunatarssuak area. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, pub. 1954. p. 131–38, diagrs.)

The results of observations during June-Sept. in this area near Wolstenholme Fiord, northwest Greenland; wind velocity, air temperatures, storms, cloud conditions, incident radiation, and relative humidity are graphed and discussed in relation to melting, summer clothing requirements, and travel and flight conditions. Winds both on and off the icecap were favorable for point-to-point flight only on 40 percent of the days studied. Temperatures followed longer high and low periods with good correspondence on and off the icecap, being

lower over the icecap due to the cooling effect of snow. Melting and slush, producing avalanches and then pools, increased rapidly from June 24-July 9 in the first warm spell. Most effective melting and the highest run-off were induced by a cool rain (with a sp. heat of 1.01) in early Aug. Low wind velocity, low cloud cover, and high incident sky radiation all correlated in part with temperature and thus contributed indirectly to melting.—From SIPRE.

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45163. GOLDTHWAIT, RICHARD PARKER, 1911— . Scientific studies in Nunatarssuak and the adjacent ice cap. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, pub. 1954. p. 3–9, map.)

Describes scientific work in the area (between 76°32' N. and 76°55' N.) bounded on the west by the North Icecap and Knud Rasmussen Glacier (its outlet), on the east by the Inland Ice with several shorter outlet glaciers, and in the south by Moltke Glacier. Covers studies on the geology of the area and its constructional value; ground conditions critical to construction and frost activity; temporal changes in marginal surface conditions, the process of change, and variations in the position of the ice ramp; the behavior of steep, narrow outlet glaciers in the Twin Glacier area and their possible effect on potential routes; run-off and its influence on surface travel; botanical investigations in relation to icecap fluctuations and accumulation; and meteorological factors influencing melting and run-off. The availability of construction materials, foundation and trafficability conditions in marginal areas, and ice and routing problems are outlined. overall effect of the glaciation and the intense frost riving is to round off the topography.—From SIPRE.

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45164. GOLDZVEIG, S. A., and A. U. SMITH. The fertility of male rats after moderate and after severe hypothermia. (Journal of endocrinology, Aug. 1956. v. 14, no. 1, p. 40-53, illus., tables.) 19 refs.

Animals exposed to a combination of hypoxia, hypercapnia and moderate hypothermia (15° to 20° C.) showed reduced sex drive and fertility during the subsequent 1-2 wks. When further cooled to between 0° and 1.5° C., sex drive and fertility were lowered for 8 wks. after

reanimation. In the latter group developing spermatozoa and spermatides were damaged but not spermatogonia and spermatocytes. *Copy seen:* DNLM.

45165. GOLDZVEIG, S. A., and A. U. SMITH. A simple method for reanimating ice-cold rats and mice. (Journal of physiology, May 1956. v. 132, no. 2, p. 406-413, illus. table.) 8 refs.

Contains description of methods and experiments in resuscitation of animals with colonic temperatures close to 0° C. and heart beats and breathing arrested for 50-60 min. Artificial respiration and warming brought about reanimation and survival for long periods.

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45166. GOLÍATIN, V. K. Sostavlenie gidrologicheskikh ezhegodnikov. Pod red. V. V. Ukhanova. Leningrad, Gidrometeorologicheskoe izd-vo, 1951. 223 p., graphs, fold. map, tables. Text in Russian. Title tr.: Compilation of the Hydrological Year Books. V. V. Ukhanov, editor. Textbook for hydrological technical colleges, approved by the Main Administration of Hydrometeorological Service.

Contains general information and instructions for securing coordinated data from hydrometeorological posts and stations, and for the analysis and preparation of these data for inclusion in the hydrological year books.\* Year books of 1945 and later are published in a new, enlarged form: the data, assembled on a standardized basis comprise daily information on water levels, ice conditions, air, water and ground temperatures, ice thickness and that of its snow cover, variation in water flow and discharge, amount of suspended and transported sediments; daily, monthly, seasonal and annual average data, physical characteristics of deposits and chemical composition of water, etc. Nineteen hydrological year books are published annually, with data for nine major regions of the U.S.S.R., including the basins of the White and Barents Seas (vol. 0), western and eastern Kara Sea (v. 6-7), Laptev, East Siberian and Chukchi Seas (v. 8), and the basin of the Pacific Ocean (v. 9), with the Sea of Okhotsk, Bering Strait and Kamchatka drainage areas. Copy seen: DLC.

<sup>\*</sup>These yearbooks (Gidrologicheskii ezhegodnik) whose antecedents and history during the Soviet régime are traced in the introduction (p. 3-10) have not been

45167. GOLLAN, FRANK. Electrolyte transfer during hypothermia. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955. pub. 1956. p. 37-41. illus.)

Oct. 1955, pub. 1956. p. 37-41, illus.)

A study of final concentration, in various tissues, of K<sup>42</sup>, Na<sup>24</sup> and Br<sup>25</sup> injected into normal and hypothermal dogs. Major changes were observed in the tissues and not in the plasma of the cooled animals: the resting skeletal muscle lost some potassium but maintained sodium and bromine concentration; the working heart-muscle gave up even more potassium and took up some bromine.

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GOLLERBAKH, MAKSIMILLIAN MAKSIMILLIANOVICH, see Akademifâ nauk SSSR. Botanicheskil institut. Rastitel'nyl pokrov SSSR... Botanicheskafâ karta SSSR... 1956. No. 43520.

45168. GOLODNOFF, M. Den store savssat. (Grønland, July 1956, nr. 7, p. 269-80, illus.) Text in Danish. *Title tr.:* The great savssat.

Deals in more detail with phenomenon of ice-locked sea mammals reported in No. 40066. Copy seen: DLC.

45169. GOLOVKOV, M. P. K voprosu o strukture l'da Karskogo morfa. (Leningrad. Universitet. Uchenye zapiski, 1937. no. 16, serifa geologo-pochvenno-geograficheskafa. vyp. 4, (t. 3), p. 9-32, tables, illus., diagr.) 43 refs. Text in Russian. Summary in English. *Title tr.*: The structure of ice in the Kara Sea.

The structure and texture of ice samples collected by the Malygin in 1934 in the Kara Sea from floes 1-2 cu. m. in volume, were studied with a polarizing micro-The petrographic textures and crystalline structures as well as the size and orientation of the crystals are presented. Textures described as latent granular, granular, gneissoid, slaty, fibrous, schistose and others, occur in the samples. The crystalline structures listed include complex crystalline, allotriomorphous and hypidiomorphous granular. granoblastic and palimsestic. Syngenetic as well as mechanical inclusions were observed, viz: crystals of sea salt. Variations in optical properties occur and are ascribed to mechanical and pleomorphic factors. The ice crystals in a new ice sheet are optically oriented both parallel and perpendicular to the freezing surface. In further study of mineral concentration in ice, crystallo-petrographic methods should be used.—From SIPRE.

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GOLOVKOV, M. P., see also Veïnberg, B. P., and others. Obshchaîa kristallografiîa l'da. 1940. No. 48715.

GOLOVKOV, M. P., see also Veïnberg, B. P., and others. Obshchaîa petrografiîa l'da. 1940. No. 48716.

45170. GOLOVNYKH, F. I. Sovremennoe sostofanie sel'skokhozfafistvennogo proizvodstva v fūgo-zapadnykh rafonakh lākutskoī ASSR i vozmozhnosti ego uvelichenifa. (Akademifa nauk SSSR. lākutskiī filial, Yakutsk. Trudy, 1956. vyp. 1, Materialy o prirodnykh uslovifakh i sel'skom khozfafistve fūgo-zapada lākutskoī ASSR. p. 37-70, tables.) 12 refs. Text in Russian. Title tr.: Present condition of agriculture production in the southwestern districts of the Yakut A. S. R. and the possibilities of its increase.

A study based on material collected in 1953 during a survey of the Olekminsk and Lensk districts. The development, nature and main products of the local agriculture, areas sown and their structure, kinds of farm products and number of people engaged, grain production 1932-52, features of current crops and of their cultivation, are considered in turn. Gross and net yields of grains, potatoes and vegetables since 1945 are presented, also the condition of the tractor stations, their work output, costs, etc. intensive cultivation and expanding the agricultural area are recommended for increased production.

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45171. GOL'TSBERG, I. A. Zashchita sel'skokhozíalstvennykh kul'tur ot zamorozkov. (Meteorologia i gidrologia, July 1956. no. 7, p. 3–7, tables, map.) 4 refs. Text in Russian. *Title tr.:* Protection of agricultural crops against frost.

Various methods are described for protecting different crops against frost. Average duration of frost-free periods per year and critical temperatures for crop damage are tabulated for wheat, corn, potatoes, cucumber, melon, squash. Regional protective measures for various crops are indicated (schematic map); they include microclimatic consideration of seeding and harvesting at specified

times, seeding of frost resistant varieties, protection from cold wind, covering, smudges, open warming, etc.

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45172. GOLUBEV, GLEB. Tok v okeane. (Znanie-sila, Feb. 1956, no. 2, p. 46-48, illus., col. plate.) Text in Russian. *Title tr.:* Electric current in the ocean.

Popular account of investigations of fish migration in relation to electrical currents of the seas and terrestrial magnetism, carried out by A. T. Mironov in Barents Sea in 1933–46. Fishes are attracted by the positive and repelled by the negative electrode; the periodicity (10–12 years) of good herring catches in Barents Sea coincides with that of sun spots. Studies of terrestrial magnetism by L. A. Korneva are noted; she devised a laboratory experiment explaining the location of the magnetic poles.

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GOMBERG, H. J., see Van Dyke, J. G., and others. The survival of Escherichia coli to freezing and drying. 1936. No. 48683.

GOMBERG, H. J., see also Van Dyke, J. G. and others. Survival of Escherichia coli . . X-irradiation . . . 1956. No. 48682.

GOMEL'SKIĬ, I. I., see Obruchev, S. V. Spravochnik puteshestvennika . . . 1949–50. No. 47123.

GOMOſŪNOV, KONSTANTIN AZAR'-EVICH, see Leningrad. Arkticheskiſ nauchno-issledovateľ'skiſ institut. Instruksiſa...glubiny morſa i...grunta. 1944. No. 46307.

GOMOĨŪNOV, KONSTANTIN AZAR'-EVICH, see also Leningrad. Arktieheskif nauchno-issledovatel'skif institut. Instruktsifa... nablūdenif... morskof vody. 1944. No. 46306.

45173. GONCHAROV, V. G. Admiral Alekseī Ivanovich Nagaev, vydatītshchii-stā russkiĭ gidrograf xviii v. (Vsesofūznoe geograficheskoe obshchestvo. Izvestifa, Mar.-Apr. 1956. t. 88, vyp. 2, p. 187-89.) 4 refs. Text in Russian. *Title tr.*: Admiral A. I. Nagaev, outstanding Russian hydrographer of the 18th century.

Biographical sketch of A. I. Nagaev, 1704–1780, occasioned by the 250th anniversary of his birth. His participation in planning Krenifâyn's and Chichagov's expeditions, 1765–1766, and his compilation of a map of the Kolyma River mouth are mentioned.

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45174. GONCHAROV, V. G. Ū. M. Shokal'skil'; k stoletiū so dniā rozhdeniiā. (Nauka i zhizn', Oet. 1956. god 23, no. 10, p. 57.) Text in Russian. *Title tr.:* Ū. M. Shokal'skil'; the centenary of his birth.

Biographical sketch, stressing Shokal'skii's achievements in the field of geography, oceanography and cartography of the U. S. S. R., and in development of the Northern Sea Route; he published some 500 scientific works and over 800 articles.

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45175. GONCHAROV, V. G. Pamíati geografa. (Vokrug sveta, Oct. 1956. no. 10, p. 9, port., map.) Text in Russian. *Title tr.:* In memory of a geographer.

Notes achievements of the Soviet geographer and explorer Ülif Mikhallovich Shokal'skif, 1856–1940; eleven geographic features (six in the Arctic) bear his name.

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GONGADZE, D. N., see Akademiía nauk SSSR. Institut geografii. Voprosy izucheniía snega . . . 1955. No. 43525.

GONIK, A. A., see Zhitin, N. P., and others. Ploty . . . 1956. No. 49053.

45176. GON'SHAKOVA, V. I. Nekotorye termicheskie i rentgenostrukturnye dannye o palagonite v palagonitovykh mindalekamennykh diabazakh zapadnol chasti Vilūliskol vpadiny. (Akademiß nauk SSSR. Izvestiß, seriß geologicheskaß, Apr. 1956. god 21, no. 4, p. 109–116, tables, graphs.) 5 refs. Text in Russian. Title tr.: Some thermal and X-ray characteristics of palagonite in the palagonitic amydaloidal diabases of the western part of the Vilyuy depression.

Studies involving thermal and optical characteristics of minerals of the palagonite group are reviewed, including chlorite and chlorophaeite. The optical and chemical properties as indicated by color and coefficient of refraction are tabulated. The exothermic and endothermic effects on heated palagonites and chlorites are very distinctly illustrated on four thermograms and the optical characteristics on the roentgenogram (x-rays). Similar investigation of hisingerite showed that its properties, composition and ther-

mogram are distinctly different from minerals of the palagonite group.

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45177. GON'SHAKOVA, V. I. O profavlenii trappovogo vulkanizma v poslenizhnefürskoe vremfa na Sibirskol platforme. (Akademiß nauk SSSR. Doklady, Apr. 1, 1954. nov. ser., god 22, t. 95, no. 4, p. 857-59.) Refs. Text in Title tr.: Indication of trap volcanism on the Siberian plateau after

the lower Jurassic age.

Denudation of banks on the upper course of the Nizhnyaya Tunguska River (near confluence of the Verkhnyaya Krivaya and the Girendau) was studied in view of indication of the volcanic character of the Siberian plateau during or after the Jurassic period. Studies of sandstone, slate, diabase and diabaseporphyrite in contact with the trap indicate that they are strongly enriched with iron. Microscopic analysis of diabase, in contact with skarnic types of rocks, indicates the hydrothermal activity of the trap and appreciable content of palagonite and biotite. Study of skarn rocks on the bank of the Vilyuy River (below the Akhtaranda) also indicates among grossularite and veluites a new unknown mineral, Akhtarandite.

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45178. GONSOVSKAÍA, G. A. ovskie termy IUzhnol Kamchatki. (Akademis nauk SSSR. Doklady, Dec. 1, 1956. t. 111, no. 4, p. 874-76.) Ref. Text in Russian. *Title tr.:* Thermal Text in Russian. springs of the Zhirovaya River region of southern Kamchatka.

Contains brief geological characterization of the region, descriptions of five groups of thermal springs, with data on their location, temperature (38° to 99° C.) and water discharge (from .05 to 4.5 l./sec.). The chemical composition of the water is: chlorine sulfide-sodium hydrocarbonate with a slight mineralization and alcaline reaction. Gas is analyzed: CO2 and other acid gases, 8.21 percent; CH4, 1.82 percent; N2 and other rare gasses, 89.97 percent.

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GOODMAN, DAVID L., see Cook, F. B., and D. L. Goodman. Design . . . Eklutna Project, Alaska. 1956. No. 44448.

GORA, V. E., see Gulenko, N. N., and V. E. Gora. Moshchnye . . . snego-uborochnye mashiny. 1956. No. 45335. GORDEEV, A. A., see Medvedev, V. M. and A. A. Gordeev. Izgotovlenie plitobolochek . . . 1956. No. 46682.

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45179. GORDEEV, D. I. Osnovnye ėtapy istorii otechestvennol gidrogeologii. Moskva, 1954. 382 p., illus., tables, map, diagrs. (Akademiîa nauk SSSR. Laboratorifa gidrogeologicheskikh problem. Trudy, v. 7.) 900 refs. Text in Russian. Title tr.: Progress of hydrogeology in the U.S.S.R.

Historical review of hydrogeological research in Russia from the 17th century, with emphasis on that during the last 40 years. Recent studies on ground water are surveyed (p. 219-24) in relation to permafrost regions (zones of fossil ice, continuous permafrost, permafrost with thawed spaces, and permafrost islands). Railroad construction in Siberia at the end of the 19th century and extensive construction in permafrost areas after 1925 resulted in the development of permafrost study from the engineering viewpoint, and a new science: permafrostology. The Commission (from 1930), Committee (from 1936), and Institute (from 1939) of Permafrostology of the Academy of Sciences of the U.S.S.R., numerous permafrost stations, and six All-Union conferences on permafrost during the prewar period aided in the development of the new science.—From SIPRE.

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45180. GORDEEV, P. V. Izuchenie lesosyr'evykh baz pri pomoshchi aksonometricheskol aérofotos''emki. (Lesnaia promyshlennost', June 1954. god 14, no. 6, p. 4–9, illus., diagrs.) Text in Russian. Title tr.: Study of virgin forest regions by means of axonometric airphotography.

The camera and method of surveying relatively inaccessible areas by air photography are described in detail with illus. of results in scale 1:250, 1:500 and 1:1000. Selection of scale and extrapolation of dimensions on the axonometric pictures are explained with reference to actual examples. Copy seen: DLC.

45181. GORDIENKO, PAVEL AFAN-AS'EVICH. Greetings from the North Pole. (News, Jan. 1, 1956, no. 1 (108), p.

New Year's greetings from the head of the drifting station North Pole-4.

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45182. GORDIENKO, PAVEL AFAN-AS'EVICH. Ice-floe stations. (News, Dec. 16, 1955, no. 24 (107), p. 20–22, illus.)

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Describes drift of station North Pole-4 from 80°30' N. 176° W. to vicinity of 86° N. in April-Dec. 1955, over 600 miles. Bottom soundings, ocean current, aerological, solar radiation, and seismographic observations, are sketched, fauna and flora in the region of relative inaccessibility, problems of ice-melting and water drainat the permanent camp site, etc., are discussed. Small sketch map indicates tracks of stations North Pole-3, 4 and Writer relieved Evgenil 5 in 1954-55. Tolstikov as leader on North Pole -4 in Copy seen: DLC. Apr. 1955.

45183. GORDIENKO, PAVEL AFAN-AS'EVICH. In the heart of the Arctic. (News, Apr. 1, 1955, no. 7 (90), p. 26, illus.)

Describes course of drift of stations North Pole-3 and -4, living conditions and scientific work carried on. Break-up of the air-strip ice floe, use of helicopters in reconnaissance, aerial supply service from mainland, etc., are noted.

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45184. GORDIENKO, PAVEL AFAN-AS'EVICH. A study of the ice regime in arctic seas and in the Arctic Ocean. [Washington, D. C.] Jan. 1956. 6l. (U. S. Hydrographic Office. H. O. translation no. 318.)

English translation by L. G. Robbins of No. 40086. Copy seen: DN-HO.

GORDON, JOHN EVERETT, 1890—, see Babbott, J. G., and others. Arctic environment and intestinal infection. 1956. No. 43796.

GORDON, MALCOLM WOFSY, 1917-, see Nurnberger, J. I., and M. W. Gordon. Effects . . stress . . rhibonucleic acids . . labile nitrogen pool . . rat. 1956. No. 47112.

45185. GORDON, MAX. Ships of the polar region. (Nautical magazine, Jan. 1956. v. 175, no. 1, p. 36-37.)

Structural features and performance data of the Danish ship Kista Dan are given briefly. The ship made her maiden voyage in 1952 to Greenland and has since been in service in the Arctic and Antarctic. This cargo vessel is designed for work in polar regions. The all welded frame is reinforced and special safety features in addition to all modern

navigational aids are provided. The ship can operate at 4-5 knots in ice one ft. thick, and can buck ice up to 45 in. thick; she is 185 ft. in length, and has an effective range of 15,500 mi.

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45186. GORDON, S. M. Primenenie teodolita dlîa opredeleniâ vysoty sezonnoï snegovoï linii v gorakh. (Meteorologiâ i gidrologiâ, Apr. 1956, no. 4, p. 54-57, table, graph, diagr.) Text in Russian. Title tr.: Use of the theodolite for determining the elevation of the seasonal snow line in mountains.

The technique and method of computation are described. Formulas for calculating the relative error stemming from the vertical angle of inclination of the mountain in relation to the orienting point are given. The method was tested in 1954, showing good agreement with hydrometeorological determinations. These data were used to compute the mean daily river discharge of the region investigated (not specified), and the results were compared with those obtained (1950) by the approximate method of N. G. Dmitriev. Daily melting was estimated at 5 mm./°C. and the temperature gradient as 0.64° C./100 m. Data are graphed on the relation between total runoff and snow-line elevation, air temperature, and precipitation. The agreement between the observed discharge value and that computed with the Dmitriev method was poor; the theodolite method however, showed better agree-Copy seen: DLC. ment.

45187. GORDON, S. S. Vakuumirovanie betona. Moskva, Izd-vo Ministerstva stroitel'stva predprifatil mashinostroenifa, 1949. 170 p., tables, illus, graphs, 35 refs. Text in Russian. *Title tr.:* Vacuation of concrete.

The theory of vacuation is discussed in part 1 (p. 5-77) with consideration of the physical processes which occur in the structure of concrete, leading to improvement in setting and hardening and to These processes in increase in density. vacuated concrete specimens are graphically presented in a set of curves indicating the distribution of pressure, air and water concentration, linear and volumetric sagging, and other characteristics. The processes are mathematically formulated with tabulation of practical coefficients corresponding to conditions. Physical properties (strength, density, hygroscopicity, frost resistance, etc.) are discussed in Chap. 6 (p. 59-77). Practical methods and equipment, for vacuation are described in pt. 2-4 (p. 78-169). Copy seen: DLC.

45188. GORÂCHKIN, VIKTOR GEOR-GIEVICH 1894—. Osnovy tekhnologii dobychi torfa ponizhennol vlazhnosti posloľno-poverkhnostnym sposobom. (Akademifa navuk BSSR, *Minsk*. Instytut torfa. Trudy 1955, t. 4, p. 20–29, graphs.) Text in Russian. *Title tr.:* Basic technological considerations in production of lower-moisture peat by the surface layer method.

Technological processes in the preparation, shaping and drying of peat of various moisture content are discussed in respect to production performance and quality of the final product. Successive excavations of the upper layer with lower moisture content shorten the drying period in the excavation area, and reduce the mechanized work required before freezing time.

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45189. GORIACHKIN, VIKTOR GEOR-GIEVICH, 1894— . Osnovy tekhnologii torfianogo proizvodstva. Moskva, Gos. énergeticheskoe izd-vo, 1953. 199 p. tables, illus., graphs, diagrs. 65 refs. Text in Russian. Title tr.: Fundamentals of the technology of peat production. Textbook, approved by Main Administration of High Education, Ministry of Culture, U. S. S. R. for the Peat Institutes.

Basic physical and chemical properties of raw peat and final products are described in detail. Various technological processes (cutting, excavating, drying and storing) are outlined on the basis of theoretical background with illustrations, graphs and computations of the production factors controlling high quality of low cost fuel. Chap. 5 (p. 102-109) concerns analysis of frozen peat, changes in its properties and the effects of various methods for peat production. The thermodynamics of the peat changes and drying processes are treated (p. 109-170); peat storage is discussed (p. 171-84), with specific emphasis on natural selfheating and self-ignition of a large pile of peat. Copy seen: DLC.

45190. GORÍŪNOVA, L. N. Opyt peresadki vzroslykh derev'ev v Murmanskol oblasti. (Rastitel'nost' Krainego Severa SSSR i ee osvoenie, 1956. vyp. 1, p. 70-80, illus., tables.) Text in Russian.

Title tr.: Transplanting mature trees in Murmansk Province.

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Describes recent experiments in urban landscaping carried out by the Polar-Alpine Garden of the Academy of Sciences' Kola Branch. Satisfactory results were obtained with a dozen species: Picea obovata, P. fennica, Juniperus communis, J. sibirica, Salix caprea, hybrid S. caprea x S. nigricans, S. borealis, Populus tremula, Betula tortuosa, hybrid B. tortuosa x B. pubescens, Sorbus glabrata and Padus racemosa. The tree size, root system, annual growth, effects of transplantation methods and season, formation of the crown, etc., are discussed and data tabulated.

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GORLENKO, S. M., see Velnberg, B. P., and others. Nekotorye svojstva snezhnogo pokrova. 1940. No. 48714.

GORLENKO, S. M., see also Veïnberg, B. P., and S. M. Gorlenko. Snezhnyf pokrov . . . 1940. No. 48718.

45191. GORMAN, MARTIN W. Economic botany of southeastern Alaska. (Pittonia, June 1896. v. 3, pt. 14, p. 64-85.)

Contains notes on about 40 species of trees, shrubs and flowering plants of some economic importance, growing in the region. "Supplementary geographical, climatological and ethnological notes" are added (p. 81–85), on plants growing on sphagnous marshes, precipitation during the rainy months (June-Aug.) of 1892–1895, and on the practice of cremation, attributed by the author to "an universal searcity of soil."

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45192. GORODKOV, BORIS NIKO-LAEVICH, 1890–1953. Rastitel'nost' i pochva o. Kotel'nogo, Novosibirskii arkhipelag. (Rastitel'nost' Krainego Severa SSR i ee osvoenie, 1956. vyp. 2, p. 7–132, illus., tables.) 53 refs. Text in Russian. *Title tr.:* The vegetation and soils of Kotel'nyy Island, Novosibirskiy Archipelago.

Monographic study, published posthumously but based chiefly on the author and E. S. Korotkevich's explorations during their stay on Kotel'nyy May 28-Sept. 16, 1947. The physical geographic conditions, and history of the island's vegetation are outlined. Sixteen geomorphic and phytogeographic zones are distinguished on the lowland (1-10) and Paleozoic plateau of the island, viz.: coasta shallows, marshes and Dupontia meadows, overgrown pebble terraces, valley bogs, valley swamped water reservoirs, ravine meadows and Dupontia bogs, swamped thermokarst pits, thermokarst bogs, polygonal deserts, sand deserts, fissured (cracked) deserts; on the plateau: foot hill and mountain deserts, snow and high altitude deserts, weathered mountain deserts, mountain swamped water reservoirs, foot hill swamps, and spots manured by animals. Location of these zones is indicated, their soils are characterized and vegetation of each is described in turn with tabular summary of plant associations and assemblages. Various geomorphic features and typical vegetation are illustrated with photo-The plants colgraphs by Korotkevich. lected in 1947 as listed (Latin names) comprise 45 algae, 8 fungi, 123 lichens, 32 liverworts, 101 mosses and 74 vascular plants. Plant names in this paper are included in the cumulative index of the volume, p. 408-509.

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GORODKOV, BORIS NIKOLAEVICH, 1890–1953, see also Akademiiā nauk SSSR. Botanicheskii institut. Rastitel'nyl pokrov SSSR... Botanicheskafā karta SSSR... 1956. No. 43520.

GORODKOV, BORIS NIKOLAEVICH, 1890–1953, see also Grichuk, V. P., and R. V. Fedorova. K voprosu o kharakteristike prilednikovoľ rastiteľnosti . . . 1956. No. 45290.

45193. GORODKOV, K.B. Nekotorye dannye o rasprostranenii strekoz na severe. (Éntomologicheskoe obozrenie, 1956. t. 35, vyp. 1, p. 120-23, text map.) 31 refs. Text in Russian. *Title tr.:* Some data on the distribution of dragonflies in the North.

Occurrence of dragon-flies is noted on Dikson Island, Russian Island (77°20′ N.), Cape Sterlegov (75°20′ N.), Cape Chelyuskin and Taymyr Peninsula. Three are singled out and discussed as typical arctic species: Aeschne subarctica elisabethae (U. S. S. R., Scandinavia and North America); A. squamata (Scandinavia, Kola Peninsula, northern Canada), and Somatochlora arctica (Scandinavia, Siberia and northern America).

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45194. GORSHKOV, G. S. Defatel'nost' vulkanologicheskoĭ stantsii v 1949 g. (Akademifa nauk SSSR. Kamchatskafa vulkanologicheskafā stantsifā. Būlleten', 1953, no. 19, p. 32–37, illus.) Text in Russian. *Title tr.*: Activities of the Volcanological Station in 1949.

Besides long distance observations from the station, trips (six) were made to Shiveluch, Klyuchevskaya Sopka (five), Tolbachik and to Kireun hot springs; results of observations are given.

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45195. GORSHKOV, G. S. Izverzhenie vulkana. (Sovetskii soûz, May 1956. no. 5 (75), p. 9, illus.) Text in Russian. *Title tr.:* Eruption of a volcano.

Director of the Kamchatka Volcanological Station of the Academy of Sciences reports briefly on the eruption of hitherto inactive Bezymyannaya Sopka, observed in Oct.-Nov. 1955. Aerial photograph shows vapors over the summit.

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45196. GORSHKOV, G. S. Selsmicheskie nablûdeniâ v sele Klûchi s 28 avgusta po 31 dekabrâ 1948 g. (Akademiâ nauk SSSR. Kamchatskaâ vulkanologicheskaâ stantsiâ. Bûlleten', 1953, no. 19, p. 14–31, illus., diagrs., tables.) 4 refs. Text in Russian. *Title tr.:* Seismic observations in the village of Klyuchi, Aug. 28–Dec. 31, 1948.

Detailed tabular data on local shocks and on near and remote earthquakes, based on preliminary study of the seismic station's records; its seismographs are briefly described and illustrated.

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45197. GORSHKOV, G. S. Sostofanie vulkanov Klfûchevskof gruppy s 30 avgusta po 31 dekabriâ 1948 g. (Akademiâ nauk SSSR. Kamchatskafa vulkanologicheskafa stanfsifa. Bfûlleten', 1953, no. 19, p. 7–13, illus., diagrs.) Text in Russian. Title tr.: The state of volcanoes of the Klyuchevskaya group, Aug. 30–Dec. 31, 1948.

Changes of intensity of the fumarolic activity of Klyuchevskaya Sopka are noted and graphed. *Copy seen:* DLC.

45198. GORSHKOV, G. S. Sostofanie vulkanov Klûchevskol gruppy v pervol polovine 1949 g. (Akademifa nauk SSSR. Kamchatskafa vulkanologicheskafa stanfäifa. Bfülleten', 1953, no. 19, p. 38–43, illus., diagr.) Text in Russian. Title tr.: The state of the volcances of Klyuchevskaya group during the first half of 1949.

Similar to No. 45197. Ejection of ashes

from the main crater of Klyuchevskaya Sopka on May 24 is noted; illus. include photograph of the Kamehatka Volcanological Station with Klyuchevskaya Sopka in background *Copy seen*: DLC.

GORSKI, THEODORE W., see Wilber, C. G., and T. W. Gorski. The lipids in Bison . . . 1955. No. 48952.

GOTLIB, fA. L., see Vasiliskov, P. A., and others. Izuchenie zazhorov . . . 1956. No. 48695.

GOTT, S. B., see U. S. Naval Civil Engineering Research and Evaluation Lab. Snow-removal operations . . . 1963. No. 48628.

GOTTLIEB, MELVIN BURT, 1917—, see Meredith, L. H., and others. Cosmic ray intensity . . . high latitudes. 1955. No. 46718.

GOTTLIEB, MELVIN BURT, 1917-, see also Meredith, L. H., and others. Direct detection of soft radiation . . . auroral zone. 1955. No. 46719.

GOULD, R. P., see Brewin, E. G., and others. An investigation . . . acid-base equilibrium . . . hypothermia. 1955. No. 44131.

45199. GOWAN, EDWARD HUNTER, 1901—. Solar radiation in various wavelength ranges. (International Union of Geodesy and Geophysics. Association of Meteorology. Procès-verbaux des séances. Mémoires et discussions, Brussels, 1951, pub. 1953. p. 221–24, 2 tables.)

Includes average June and Dec. results of measurements of total solar plus sky radiation on a horizontal surface made at Aklavik, Mackenzie District (68°13′ N. 135° W.), in 1949 and 1950.

Copy seen: DWB.

GRAHAM, HERBERT, WILLIAM, 1905–, see International Commission for NW. Atlantic Fisheries. Annual proceedings . . . 1955–56. 1966. No. 45703.

45200. GRAHAM, MICHAEL, Editor. Sea fisheries; their investigation in the United Kingdom. London, Arnold, 1956. 487 p. illus., tables, maps. About 550 refs.

A comprehensive though concise review in ten papers by leading authorities in the field. Fisheries in seas adjacent to Great Britain and those with bases in British ports are primarily considered.

The editor's introductory chapter on "Science and the British fisheries" (p. 1-9) outlines this field of research, barely 60 years old, and the area including northern waters, treated in this volume. Of the succeeding papers, four, with information on arctic areas and/or conditions, are analyzed in this Bibliography under the author's name:

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WOOD, H. Fisheries of the United Kingdom. p. 10-79.

LUCAS, C. E. Plankton and basic

production. p. 80-115. LUCAS, C. E. Plankton and fisheries

biology. p. 116-38.
PARRISH, B. B. The cod, haddock,

and hake. p. 251-331. Copy seen: DLC.

45201. GRAHAM, R. C. Trans-oceanic aviation services. (Weatherwise, Apr. 1956. v. 9, no. 2, p. 51-53, illus.)

Canada has provided meteorological service to trans-oceanic aviation continuously since 1937. Its importance has increased with the start, in 1954, of commercial trans-arctic flights from the North American west coast to Europe, and with greater volume of traffic on other routes. Brief description of forecasting procedure is given.

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GRAINGE, JOHN W., see Copp, S. S., and others. Protection of utilities . . . permafrost . . . 1956. No. 44458.

**45202. GRAINGER, EDWARD HENRY, 1926**- . The "Calanus" in Foxe Basin, 1955-6. (Arctic circular, 1956. v. 9, no. 3, p. 41-43.)

Reports a year-round study (from Sept. 1955) in the Igloolik region, northern Foxe Basin. Primary interest was walrus, but seals, fish, plankton, and benthos were also studied and oceanographic observations made. One collecting station was maintained throughout the year to study annual plankton and sea-water cycles. Author and Capt. H. Andersen wintered aboard the Calanus (quarters described) at Turton Bay, Igloolik Island (69°22'7" N. 81°44'3" W.). Winter hunting of walrus on the pack ice by Foxe Basin Eskimos is discussed, stressing skills and group effort involved.

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45203. GRAINGER, EDWARD HENRY, 1926— . Echinoderms of Ungava Bay, Hudson Strait, Frobisher Bay, and Cumberland Sound. (Canada. Fisheries Research Board. Journal, 1955. v. 12, p. 899–916, illus. tables.) 33 refs.

Description of 26 species of echinoderms collected between 1947 and 1952 by the *Calanus* expeditions. Fifteen of the species are new records for the area. Locations and depth of finds, geographic distribution, earlier records, morphology and anatomy, similarities with related forms, etc., are dealt with.

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45204. GRAINGER, EDWARD HENRY, 1926—and M. J. DUNBAR. Station list of the Calanus expeditions, 1953-54. (Canada. Fisheries Research Board. Journal, 1956. v. 13, no. 1, p. 41-45, tables, maps.) Calanus series no. 10.

Lists 89 stations where biological or oceanographic observations or collections were made by the Calanus in Hudson Bay, western Hudson Strait and Ungava Bay, during the 1953 and 1954 seasons. Location, geographic position, depth in meters and kind of work done is stated for each station. Copy seen: DI.

45205. GRAINGER, J. N. R. Effects of changes of temperature on the respiration of certain Crustacea. (Nature, *London*, Oct. 27, 1956. v. 178, no. 4539, p. 930-31, illus.) 10 refs.

Account of experiments with several kinds of crustaceans and their eggs. A transfer to lower or higher temperature caused an immediate overshoot in O2-consumption, followed by minor oscillations and final stabilization with the new condition. No such overshoot was observed in CO2-production. The phenomenon is explained as an expression of the steady-state condition.

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GRAMBERG, I. S., see Leningrad. Nauchno-issledovatel'skii institut geologii Arktiki. Metodicheskie issledovania po geokhimii . . . 1956. No. 46312.

GRANDJEAN, E., see Marmet, J., and E. Grandjean. Untersuchungen über . . . Verhalten des Ruhestoffwechsels . . . langdauernder Kälteexposition . . . 1955. No. 46634.

GRANGER, C., see de Lesse, H., and C. Granger. Hymenoptera. 1952. No. 44581.

GRANIN, G. I., see Kurchatov, G. N., and G. I. Granin. Lenskomu parokhodstvu . . . 1956. No. 46171.

GRANLUND, E., see Magnusson, N. H.. and others. Sveriges geologi. 1949. No. 46560.

GRANÖ, J. G., see Geografiska Sällskapet i Finland. Suomen maantieteen käsikirja. 1951. No. 45065.

GRANT, RONALD, see Andersson, B., and others. Central control of heat loss . . . goat. 1956. No. 43635.

45206. GRANTZ ARTHUR, 1927—. Magnetite deposits at Tuxedni Bay, Alaska. Washington, D. C., U. S. Govt. Print. Off., 1956. p. 95–106. 3 text maps, cross-section, 2 tables. (U. S. Geological Survey. Bulletin 1024–D. Mineral resources of Alaska) 4 refs.

Magnetite deposits on an island approx. 60°12' N. 152°42' W. occur in contactmetamorphosed volcanic and sedimentary rocks near their contact with a quartzdiorite batholith, which underlies large areas of the adjacent Aleutian Range. The deposits are pyrometasomatic in origin and probably are localized by northeast-trending fractures. The eastern deposit is a low-grade disseminated deposit occurring in hornfels. The western deposit occurs as a massive lens of magnetite and garnet, . . . may contain about 75 percent magnetite,-From author's abstract Copy seen: DGS.

45207. GRANTZ, ARTHUR, 1927—. Possible origin of the placer gold deposits of the Nelchina area, Alaska. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1807.)

Abstract of paper presented at the Seventh Alaskan Science Conference (AAAS), Juneau, Sept. 27–30. Author suggests that Eocene continental gravels inferred to have covered most of this area (61°57′ N. 146°26′ W.) in late geologic time contained concentrations of placer gold which were reworked during late Pleistocene and Recent to form present placers. Lack of intrusive rocks of gold-bearing type, present distribution of placers, and characteristics of the pieces of gold are presented as support for theory.

\*\*Copy seen: DGS.\*\*

GRANZER, E., see Wilke, H., and E. Granzer. Künstlicher Winterschlaf für Operationen? 1954. No. 48959.

45208. GRAUS, H. U. S. Army develops heating and air conditioning units. (Air conditioning, heating and ventila-

tion, Oct. 1956. v. 53, no. 10, p. 112–14, 6 illus.)

New military designs of equipment for temperature control in arctic and tropical climates are described briefly and illustrated. Heaters of 50, 60, 70, and 90 thousand Btu/hr. for 20 x 48 ft. and 40 x 40 ft. barracks, vans, special purpose buildings are under tests at Fort Churchill and elsewhere. Design improvements include increased radiation area, improved blower placement to provide more equal temperature distribution, and burners capable of burning either gasoline or fuel oil. Copy seen: DLC.

45209. GRAVE, NIKOLAĬ ALEKSAN-DROVICH. Ob arkheologicheskoI datirovke vozrasta nekotorykh gidrolakkolitov na Chukotke. (Akademiā nauk SSSR. Doklady, Feb. 1, 1956. god 24, t. 106, no. 4, p. 706-707.) 2 refs. Text in Russian. *Title tr.:* An archeological determination of the age of some hydrolaccoliths in Chukotka.

English translation by E. R. Hope pub. by Canadian Defence Research Board, Directorate of Scientific Information Service, Ottawa, June 1956 as its T218R

(3 p.) Copy at CaMAI.

The age of hydrolaccoliths is discussed on the basis writer's find, on the Anadyr' plateau near Lake Chirovoye in 1952. of one of these mounds 15-20 m. high with traces of an ancient campsite. Objects from the latter were described by A. P. Okladnikov (No. 31087) as of neolithic and early bronze age, hence the hydrolaccolith formed 2,000 or more years ago. Hydrolaccoliths, or icing mounds, known as pingos in Alaska or bulgunniakhi in Yakutia, are associated with permafrost and long-period freezing in valleys with underground rivers and lakes. They are also formed in several areas of peat soil as a seasonal phenomenon. Copy seen: DLC. GRAY, BOB PARVIN, see Behlke, C. E., and B. P. Gray. A study of floods on glacial streams. 1956. No. 43923.

45210. GRAY, IRVING, 1920—, and others. Effect of hypothermia on metabolism and drug detoxification in the isolated perfused rabbit liver. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia... symposium, Oct. 1955, pub. 1956. p. 226–34; illus. tables.) 19 refs. Other authors: R. R. Rueckert and R. R. Rink.

Following a description of apparatus designed for, and used in experiments with perfused liver, the effect of hypothermia as studied with these apparatus, is discussed. Respiration, metabolism and its ability to conjugate morphine and thiopental, detoxification of these two drugs, and bile formation are included.

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GRAY, IRVING, 1920—, see also Rink, R. A., and others. The effect of hypothermia on morphine metabolism. 1956. No. 47593.

45211. GRAYSON, JOHN, and D. MENDEL. The distribution and regulation of temperature in the rat. (Journal of physiology, Aug. 1956. v. 133, no. 2, p. 334-46, illus., tables.) 5 refs.

Account of investigation of mean temperatures of various body regions in tropical-bred, conscious rats and their responses to cold-exposure. In the latter case, a rapid temperature stabilization was observed. Ganglion blockade or adrenalectomy affected only slightly resistance to cold; but a combination of both or adrenergic blockade seriously impaired it. Pentobarbitone sodium had a similar effect, due in part by inhibition liver function. Copy seen: DNLM.

# British Parliamentary Papers on Arctic Expeditions

Nos. 45212-45257 describe documents on some of the British Government expeditions in the North American Arctic in the 19th century. Most of these documents originated in the Admiralty, were presented to one or both Houses of Parliament in connection with an inquiry, and were published in its (their) sessional papers. Many were also issued separately. A few concern early attempts on the Northwest Passage; most deal with the midcentury Franklin search efforts; a few concern Nares' abortive attempt on the North Pole. The documents are largely field records of participants in the expeditions or their evidence at hearings, etc., and record their activities and the regions explored in more explicit detail than the narratives and scientific papers of these expeditions published for the general public. For a large part of the Canadian Arctic, they have been the most extensive source of information in print, and for sections of it, until recently, the sole source. The information is difficult of access, however, due to the character and complexity of the documents, lack of indexes, etc. In Nos. 45212-45257 and the index at the end of this volume, these documents are described and indexed for their geographic content, data on environmental conditions, expeditionary health, and organization; some essentially administrative matter is indicated but no attempt made to trace history of exploration. Geographic coordinates of most of the cited localities are given in Northwest Territories and Yukon, a provisional section of the Gazetteer of Canada, prepared by Canadian Board of Geographic Names, Ottawa, 1958. These documents, or most of them, are available in the libraries of the Canadian Department of Northern Affairs, Scott Polar Research Institute, Cambridge, England, Royal Geographical Society, London, and in sessional papers files maintained by the Library of Congress, New York Public Library, Canadian Parliamentary Library, among others; they are also available in microprint from Readex Microprint, 115 University Place, New York 3, N. Y. The Arctic circular, v. 8, no. 3, 1955, published a preliminary guide to these documents by Dr. Andrew Taylor,\* who also prepared the abstracts which follow.

The documents have been indexed in depth by Dr. Taylor for the Canadian Dept. of Northern Affairs and National Resources, and this index, an extensive card file, is available for use in the Northern Affairs Library, Northern Research Co-ordination Centre, Ottawa.

## 45212. GREAT BRITAIN.

A bill for more effectually discovering the longitude at sea, and encouraging attempts to find a Northern Passage between the Atlantic and Pacific Oceans, and to approach the Northern Pole. Ordered by the House of Commons to be printed, 9 March 1818. 9 p. (Great Britain. Parliament. House of Commons. Sessional papers, Bills public 1818, v. 1, no. 99)

First reading of a bill to provide a system of rewards (amounts not stated) for: accurately finding longitude at sea; accomplishing the Northwest Passage; and approaching within a degree of the North Pole. The bill was enacted May 8, 1818 as 58 Geo. III, c. 20; it provided rewards for finding longitude, of £5,000, £7,500, and £10,000 according to accuracy achieved, with minor rewards for related experimental work of £1,000 annually; for a Northwest Passage, £20,000 was offered; and for approaching the North Pole, £5,000.

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#### 45213. GREAT BRITAIN.

Report from Select Committee on the Expedition to the Arctic Seas, commanded by Captain John Ross. Ordered by the House of Commons to be printed, 28 April 1834. 40 p., fold. col. map. (Great Britain. Parliament. House of Commons. Sessional papers, Reports from committees, 1834, v. 18, no. 250) Previously listed as No. 6107 of Arctic Bibliography.

Report (p. 3-7) of committee appointed to investigate Ross's second expedition in search of a Northwest Passage, to decide if he should be remunerated, and to what amount. Government support of this expedition had been refused, and Felix Booth contributed about £18,000 towards its cost. A letter from Ross written in Baffin Bay (Sept. 1833) giving an account of the expedition's activities from 1829 to 1833, is included. Value of its investigation of Prince Regent Inlet as a potential Northwest Passage, the addition of about 700 miles of new coastline, and the discovery of the North Magnetic Pole, are recognized, and reward of £5,000 is recommended. Appended minutes of evidence (p. 9-38) include biography of Ross; information on costs of the expedition; its scientific work in terrestrial magnetism, meteorology, astronomy, auroras, etc. (p. 12, 16, 19-20, 23-24, 29-30); on camping equipment, diet, health of crew, etc. (p. 12, 13); on use of paddle-wheel steamers, survival following shipwreck (p. 17–18); on differences in elevation between eastern and western sea levels of Boothia Isthmus (p. 27, 32). Evidence was given by John Ross, J. C. Ross, Francis Beaufort, F. Booth, J. G. Children (Royal Society), etc.

Map shows voyages into the arctic regions from 1818, including tracks of Beechey, Franklin, Richardson, Lyon, Parry, John Ross and Buchan.

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## 45214. GREAT BRITAIN.

Captain Ross. An estimate of the sum required to enable His Majesty to make a grant to Captain Ross. Ordered by the House of Commons to be printed, 18 July 1834. 2 p. Also pub. as: Great Britain. Parliament. House of Commons. Sessional papers, Estimates and accounts 1834, v. 42, no. 493.

Grant to Ross of £5,000 in remuneration of services on the voyage of 1829-33. Copy seen: DLC.

#### 45215. GREAT BRITAIN.

Navy estimates for the year 1846–47. Ordered by the House of Commons to be printed, 13 February 1846. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers 2, Estimates 1846, v. 26, no. 51).

Includes "wages to seamen and marines" with (p. 6) record of double pay to personnel of Franklin's vessels HMS Erebus and Terror. Copy seen: DLC.

## 45216. GREAT BRITAIN.

Arctic expedition. Return to an address of the Honourable the House of Commons dated 21 March, for: Copies of instructions to Captain Sir John Franklin, in reference to the arctic expedition of 1845; to any officer or officers appointed by the Admiralty on any expedition in search of Sir John Franklin; and, Copies or extracts of any proceedings and correspondence of the Admiralty in reference to arctic expeditions from 1845 to the present time, together with copies of charts illustrating the same. Ordered by the House of Commons to be printed, 13 April 1848. 84 p. 5 fold. (Great Britain. Parliament. maps. House of Commons. Sessional papers, Accounts and papers, 1847-48, v. 41, no. 264.)

Contains instructions, etc. 1847-48, for a relief expedition via Bering Strait to the Western Arctic, in the *Plover* (Cmdr. T. E. L. Moore) and the Herald (Capt. H. Kellett); and for an overland journey under Sir John Richardson, with Dr. John Rae, northeastward from the Mackenzie via Great Bear Lake and the Coppermine River (p. 3–21). Proposed route and data on personnel, clothing, victuals and equipment of Richardson's party are given (p. 37–40, 57–72). Proposals for Franklin Search by John Ross, Richardson, J. C. Ross, and F. W. Beechey (1847); also one by Dr. Richard King, Feb. 1848, overland to the Back River, are included, together with criticisms of them (p. 21–37, 41–47). Rewards for tracing Franklin, speculations on his movements by Barrow, Lady Franklin, etc. (p. 47–53, 72–73) are offered.

Maps attached, issued by the Admiralty Hydrographic Office, are: North Polar Sea (polar projection), June 29, 1835,

corrected to 1847.

Arctic America, sheet 1, from Cape
Barrow to Cape Krusenstern, by Franklin and Dease and Simpson, 1825 and

1837. May 10, 1845.
Arctic America, sheet 2, containing Barrow Strait, Prince Regent Inlet, Gulf of Boothia, etc., with plans of ports: Winter Harbour, Melville Island; Port Bowen, Port Neill, Baffin Island; Victoria Harbour, Elizabeth Harbour, Boothia Peninsula; Batty Bay, and Port Leopold, Somerset Island. Jan. 28, 1836, additions 1847.

Baffin Bay with Davis and Barrow Straits, by John Ross and W. E. Parry in 1818–20; and the discoveries of Parry, 1822–23, Capt. Lyon in 1824, and Dr. Rae in 1847. Apr. 1, 1822, additions to 1847.

Davis Strait, Cumberland Isle, from observations of Capt. Penny of the Neptune, and information of Encolooapeek, an Eskimo, 1839. Feb. 12, 1840.

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## 45217. GREAT BRITAIN.

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Arctic expedition. Return to an address of the Honourable the House of Commons, dated 26 May 1848, for a Copy of the orders from the Lords Commissioners of the Admiralty, under which Captain Sir James Clark Ross has proceeded on an expedition in search of Captain Sir John Franklin. Ordered by the House of Commons to be printed, 7 June 1848. 4 p. (Great Britain, Parliament. House of Commons. Sessional papers, Accounts and papers, 1847–48, v. 41, no. 386)

On termination of the period for which Franklin's expedition of 1845 had been victualled, J. C. Ross was given command of two vessels, HMS Enterprise and Investigator (Capt. Bird), with orders, dated May 1848, to search the shores of Lancaster Sound and Barrow Strait for traces of the Franklin expedition. lowing examination of Wellington Channel, the ships were to be established in winter quarters on north Somerset Island. In the spring, Ross was to examine the west coast of Somerset Island and Boothia Peninsula southward to connect with his survey through Boothia Isthmus in 1831. By steam launch, in early summer 1849, Ross was to establish communications home through whalers in Lancaster Sound. Instructions cover also his projected search farther west, in the vicinity of Banks Island and of Melville Island. particularly with regard to his contacting Richardson's expedition at Cape Parry or Cape Bathurst on the north continental Copy seen: DLC.

#### 45218. GREAT BRITAIN.

Arctic expedition, North Star. Expense of the estimates of the equipment of Her Majesty's ship North Star; and copy of minute of the Board of Admiralty respecting the equipment of the North Star, for the purpose of taking out a supply of provisions, &c., for the crews of Her Majesty's ships Investigator and Enterprise, employed on an expedition to the arctic regions. Presented to Parliament by Her Majesty's command. Ordered by the House of Commons to be printed, 23 March 1849. 2 p. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1849, v. 31, no. 152)

Estimated costs of equipping the North Star are itemized as ship repairs, wages, victuals, ordnance stores, provisions, stores and coals, etc. for the Investigator and Enterprise. Board of Admiralty minute of Mar. 23, 1849 is added: this resupply operation is designed to forestall Capt. J. C. Ross's returning one of his vessels, the Investigator, to England.

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## 45219. GREAT BRITAIN.

Arctic expeditions. Return to an order of the Honourable the House of Commons dated 15 March 1849, for: Extracts of any proceedings or correspondence of the Admiralty in reference to the Arctic expedition, in continuation of Parliamentary papers nos. 264 and 386

of session 1848, up to the present time. Admiralty, 27 March 1849, J. H. Hay, Chief Clerk. Ordered by the House of Commons to be printed, 30 March 1849. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1849. v. 32, no.

Contains progress despatches from three Franklin Search expeditions, viz. the Enterprise and Investigator under J. C. Ross to Lancaster Sound and Barrow Strait: J. Richardson's overland expedition to the Mackenzie River mouth; and the Plover and Herald under T. E. L. Moore and H. Kellett to Bering Strait. Ross (p. 1-7) includes his instructions to the Investigator (Capt. E. J. Bird) to search northeast Baffin and south Devon Islands before proceeding to rendezvous at Port Leopold. Kellett (p. 11-21) reports on clothing and provisions aboard. visits to Kotzebue Sound, Petropavlovsk, mild scurvy outbreak, etc. Further instructions of Feb. 1849, to be sent to Ross and Kellett, are appended.

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#### 45220. GREAT BRITAIN.

Arctic expeditions. Further return to an order of the Honourable the House of Commons dated 15 March 1849 . . . Return of the opinions of the most experienced officers connected with the Arctic expeditions, on the necessity of sending a ship to the entrance of Lancaster Sound, with supplies for Sir James Ross's expedition: and their joint opinion as to certain measures proposed to be adopted. Admiralty, 19 April, 1849, T. Crofton Croker, for the Chief Clerk. Ordered by the House of Commons to be printed 20 April 1849. 12 p. (Great Britain. ment. House of Commons, Sessional papers, Accounts and papers, 1849, v. 32, no. 188-II)

Contains comments, suggestions, etc. on proposal to send a ship to Lancaster Sound to resupply Capt. Ross's expedition, as expressed by Captains W. E. Parry, George Back, F. W. Beechey, Edward Belcher, and Col. Edward Sabine, among others.

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## 45221. GREAT BRITAIN.

Arctic expedition. Return to an address of the Honourable the House of Commons dated 11 June 1849, for: Copy of any communication from Her Majesty's Consul at Washington to Her Majesty's principal Secretary of State for Foreign Affairs, in reference to measures adopted by the government of the United States, on the subject of the expedition sent forth by this country under command of Sir John Franklin. to the arctic seas. Correspondence with Her Majesty's chargé d'affaires at Washington, respecting the intention of the government of the United States to send two ships of war in search of Sir John Franklin's expedition to the arctic seas. Ordered by the House of Commons to be printed, 13 June 1849. 2 p. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1849, v. 32, no. 387)

Refers to a newspaper report of plan to send American ships by way of Davis Strait, and by way of Bering Strait, to search for Franklin.

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### 45222. GREAT BRITAIN.

Arctic expedition. Copy of report from Sir John Richardson, dated Fort Confidence, Great Bear Lake, 16th September 1848, reporting his proceedings in search of Sir John Franklin's expedition. Presented to Parliament by Her Majesty's command. Ordered by the House of Commons to be printed 12 July 1849. 4 p. (Great Britain, Parliament. House of Commons, Sessional papers, Accounts and papers, 1849, v. 32, no. 497)

Contains report of Richardson's boat expedition to the mouth of Mackenzie River, thence eastward along the north continental coast to Cape Bathurst, Dolphin and Union Strait, and the Coppermine River, ascending the Coppermine and the Kendall River to Fort Confidence on Great Bear Lake. Describes ice conditions and tides in Coronation Gulf and Dolphin and Union Strait.

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## 45223. GREAT BRITAIN.

Arctic expedition. Return to an order of the Honourable the House of Commons dated 5 February 1850, for: Copies of any reports or statements from the officers employed in the arctic expeditions . . . in respect to the resumption of the search for Sir John Franklin's expedition: Of any plan or plans of search . . . ; Copy or extracts from any correspondence or proceedings of the Board of Admiralty, in relation to the arctic expeditions . . . ; Copies of the orders issued by the Board of Admiralty to the Captains Collinson, Kellett and Moore, and to Lieut, Pullen, and also copies of instructions given to Dr. Rae, through the Hudson's Bay Company: Of any reports made by any officer or officers employed in the late expeditions . . . : And, of the latest chart of the Polar Sea . . . In continuation of Parliamentary papers, nos. 264 and 386, of session 1848, and of nos. 188 and 387, of session Admiralty, 4 March 1850, J. H. Hay, Chief Clerk. Ordered by the House of Commons to be printed, 5 March 1850. vi, 157 p., illus., 2 fold. maps. (Great Britain, Parliament. House of Com-Sessional papers, Accounts and

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papers, 1850, v. 35, no. 107) Contains reports of Franklin search expeditions in the Eastern Arctic under Capt. J. C. Ross (Enterprise and Investigator), and by Capt. James Saunders (North Star), as well as reports of whaling voyages (Truelove and Advice) to Baffin Bay, Lancaster Sound and Prince Regent Inlet; also, reports of search expeditions in the Western Arctic under Kellett (Herald), Moore (Plover) and Collinson (Enterprise) by way of Bering Strait, including Pullen's boat voyage along the north coast of Alaska to the Mackenzie River; also, proposed expeditions to Bering and Barrow Straits, including proposals by M'Cormick, Osborn, Penny and King, together with Lady Franklin's correspondence with volunteer

searchers; also, rewards for successful Franklin searchers, and proposals to use

Eskimos and dogs in the search. 1. Eastern Arctic expeditions: The Finterprise and Investigator (Capt. E. J. Bird), commanded by Capt. J. C. Ross, sailed from Upernavik across Baffin Bay to Pond Inlet, through Lancaster Sound to winter quarters at Port Leopold on Somerset Island, July-Oct. 1848; spring sledge trip with M'Clintock west along the north coast of Somerset Island, and south into Peel Sound, sledge parties into Prince Regent Inlet and north across Barrow Strait, and return voyage of Ross and the Enterprise to England, Nov. 1849 (p. 58-64). Instructions and progress reports of the North Star (Capt. James Saunders) ordered to the Lancaster Sound area to resupply Ross's two vessels for Voyage of the whaler 1850 (p. 64-70). Truelove in Baffin Bay-Lancaster Sound 1849, cf. fold. map at end, and natives' report of ships in Prince Regent Inlet; voyage of the whaler Advice (Capt. Penny) in 1849, an abortive attempt to enter Lancaster Sound, but landing a depot on Wollaston Island, which is described (p. 70–74). Proposed expedition to Barrow Strait, with reports and comments 1849–1850, by Rear-Adm. Sir Francis Beaufort, Capt. W. A. B. Hamilton, J. M. Hamilton, Capt. W. E. Parry, Capt. George Back, Capt. F. W. Beechey, Dr. John Richardson, and Col. Edward Sabine (p. 98–111); Capt. John Ross's plan for an expedition with three small vessels to the Barrow Strait area, supplies listed (p. 111–20); this plan did not materialize.

2. Western Arctic expeditions: Progress report by Dr. John Richardson of journey in 1848 down Mackenzie River, east along north continental coast past Dolphin and Union Straits to Coppermine River, returning to Fort Confidence on Great Bear Lake by way of the Kendall River, including game, scientific observations and instructions to Rae (p. 1-8). Kellett's report (p. 9-43) of voyage of the Herald May-Oct. 1849, by way of Kamchatka through Bering Strait to Kotzebue Sound. noting whales, seals and walrus, discovery of Herald Island (p. 18), coastal voyage from Chamisso Island to Wainwright Inlet (p. 41-43): incuding Moore's report of wintering of the Plover on the Asiatic coast (p. 35-36), and voyage along the northwest coast of Alaska, with exploration of Eschscholtz Bay and Buckland River (p. 38-39); also Lt. W. J. L. Pullen's boat expedition from Wainwright Inlet via Pt. Barrow to the Mackenzie in 1849, covering proposal, instructions, Pullen's progress reports (p. 22-30), and Martin's report (p. 31-33) of the return party with account of mutiny. Hudson's Bay Co. correspondence on Pullen (p. 47-55) and on Rae (p. 56-57). Proposed expedition to Bering Strait (p. 74-82), with comments and recommendations by Rear-Adm. Sir Francis Beaufort, Captains W. E. Parry, J. C. Ross, F. W. Beechey, George Back, and Dr. John Richardson, with (p. 75-77) sketch and description of Parry's proposed sledge design. This expedition was sent out, Capt. R. Collinson in command with the Enterprise, and M'Clure, the Investigator. Instructions are given, and selection of Miertsching as interpreter is discussed (p. 82-89); and counsel offered (p. 89-96) by Parry on ice navigation, winter quarters, the Northwest Passage; by Beechey on ice navigation in Beaufort Sea, natives, etc.; and by Richardson on attacks by natives, together with his comments on Eskimos, Chukchis, Indians, the Colville River mouth, Hudson's Bay Co. posts on the Mackenzie River, articles of trade, cold weather diets, cleaning bedding, etc.

3. Search proposals: Dr. Robert M'Cormick's (p. 121-27) for boat expedition to search Jones and Smith Sounds, and Wellington Channel: Lt. S. Osborn's (p. 128-32) for overland journey to mouth of Colville River: Capt. Wm. Penny's (p. 133-35) to pursue search of Wellington Channel; and Dr. Richard King's (p. 155-56) to search the estuary of the Great Fish River: Thomas Ward's (now Back) recommendations to utilize Eskimos with dog teams on search (p. 156-57). Correspondence from Lady Franklin, Wm. Snow, John M'Lean and others, on the search for Franklin (p. 137-54), including (p. 143-45, 148-49) rewards offered to successful searchers.

Maps (two, at end) comprise: Chart of Baffin Bay with Davis and Barrow Straits by John Ross and W. E. Parry in 1818-20, showing discoveries of Parry in 1822-23, Capt. Lyon in 1824, Dr. Rae in 1847; track of the whaler Truelove in 1849; inset is an Eskimo sketch map, intended to show the positions of the ships of Franklin and Ross in Prince Regent

Inlet in March 1849.

Chart of the North Polar Sea, corrected to 1849. Copy seen: DLC.

#### 45224. GREAT BRITAIN.

Arctic expedition. Return to an order of the Honourable the House of Commons dated 12 April 1850, for: An account of the charge for the purchase, repair and outfit of the vessels now fitting for the arctic expedition. Ordered by the House of Commons to be printed, 23 May 1850. 2 p. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1850, v. 35, no. 368)

Contains cost of purchase and refit of the Resolute, Assistance, Pioneer and Intrepid for Austin's expedition, with estimated costs of crews' wages, clothing, provisions, medicines, and of hiring the transport, Emma Eugenia; together with cost of purchase and refit of Lady Franklin and Sophia for Penny's expedition, with estimates of crews' wages, provisions, clothing, medicines, etc.

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## 45225. GREAT BRITAIN.

Arctic expeditions. Return to an address of the Honourable the House of Commons dated 10 May 1850, for: Copies of instructions from the Admiralty to

Captain Austin, and to any other officers in Her Majesty's service engaged in arctic expeditions, since the date of the last Parliamentary return. Admiralty, 28 May 1850, J. H. Hay, Chief Clerk. Ordered by the House of Commons to be printed, 31 May 1850. 6 p. (Great Britain. Parliament. House of Commons. Sessional papers, Reports and papers, 1850, v. 35, no. 397)

Contains Admiralty instructions, Apr.—May, 1850, to Captains Wm. Penny (Lady Franklin), James Saunders (North Star), and H. T. Austen (Resolute).

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## 45226. GREAT BRITAIN.

Arctic expeditions. Return to an address of the Honourable the House of Commons dated 7 February 1851, for: Copy or extracts from any correspondence or proceedings of the Board of Admiralty in relation to the arctic expeditions, including those more recently sent forth in resumption of the search for that under the command of Sir John Franklin. Copies of any instructions from the Admiralty to any officers in Her Majesty's service engaged in arctic expeditions, since the date of . . . Parliamentary papers no. 107 and no. 397 of session 1850; And, copy or extracts from any correspondence or communications from the government of the United States, or from Her Majesty's Minister at Washington, in relation to any search to be made on the part of the United States, or from its territory, for the expedition under Sir John Franklin. Admiralty, 7 March 1851, J. H. Hay, Chief Clerk, Ordered by the House of Commons to be printed, 7 March 1851. iv, 106 p., 2 (Great Britain. fold. maps. Parlia-House of Commons. Sessional ment. papers, Accounts and papers, 1851, v. 33, no. 97)

Contains reports of expeditions in 1849-50 to the Canadian Eastern Arctic commanded by Capt. H. T. Austin (Resolute, Assistance, Pioneer and Intrepid); Lt. E. J. DeHaven, USN. (Advance and Rescue); Cmdr. Charles C. Forsyth (Prince Albert); Capt. Wm. Penny (Lady Franklin and Sophia); Capt. John Ross (Feliz); and Capt. James Saunders (North Star); also reports of expeditions to the Western Arctic commanded by Capt. Richard Collinson (Enterprise), Capt. Henry Kellett (Herald), Cmdr. T. E. L. Moore (Plover), Lt. W. J. S. Pullen and Dr. John Rae (boat expeditions); also

proposals for search expeditions presented by Rear-Adm. J. N. Tayler, and W. P. Snow.

1. Eastern Arctic expeditions: For Capt. H. T. Austin's group, three years' supplies are listed and progress reports (1850) given for the Resolute (Austin) and the Assistance (Ommanney) and their tenders (p. 89-96). For Capt. E. J. DeHaven's expedition sponsored by Henry Grinnell. Congress resolution and official instructions are given (p. 1-4). Cmdr. Charles C. Forsyth's reports on the voyage of Prince Albert (1850) to Lancaster Sound and Prince Regent Inlet (p. 68-70) with report by Ommannev of Franklin relies found Aug. 1850 at Cape Riley, followed by comments of Beechev, Parry, Richardson, Dr. Andrew Clark (microscopic examination). Capt. Peter Richards, and Col. Edward Sabine (p. 70-79). Capt. Wm. Penny gives progress reports (1850) of voyage to Lancaster Sound (p. 80-83). Capt. John Ross gives a progress report to the Hudson's Bay Co. on his voyage (1850) to Lancaster Sound, and investigation of native reports of murder of crews of Erebus and Terror (p. 83-88). Capt. James Saunders recounts the voyage of the supply ship North Star up Baffin Bay to Wolstenholme Sound in 1849, with comment on Eskimos, scurvy, spring break-out, etc. (p. 56-60); and the voyage (1850) across Baffin Bay to Possession Bay, and through Lancaster Sound to Whaler Point and Prince Regent Inlet (p. 60-68), with a depot laid at Wollaston Islands, to supply 100 men for one year (articles listed).

2. Western Arctic expeditions: Capt. Richard Collinson's report on the voyage of the Enterprise and Capt. Robt. M'Clure's on the Investigator to Kotzebue Sound (p. 5-16), and Arbuthnot's journal of ice conditions along the northwest coast of Alaska, Aug. 16-29 (p. 16-18). Capt. Henry Kellett's narrative of the voyage of the Herald 1849-50, by way of Kamchatka through Bering Strait to Kotzebue Sound, coasting to Cape Lisburne (p. 19-21), advice to Collinson on route through Bering Strait and eastward (p. 25-27), with comments on natives, ice conditions, harbors, etc. Cmdr. T. E. L. Moore's narrative of voyage of the Plover 1849-50, with remarks on natives around Kotzebue Sound, spring break-up of ice in the Sound, scurvy and anti-scorbutic diet, depots laid (p. 28-32); instructions from Kellett and a boat expedition in July-Aug. 1850 from Icy Cape to Point Barrow (p. 34-40); medical survey of the Plover (p. 41-42); instructions from Collinson (p. 42). Lt. W. J. S. Pullen's boat expedition eastward along the north coast of Alaska: supplies, etc., progress June-July 1850 (p. 51-56). Dr. John Rae's summer 1849 boat expedition to Dolphin and Union Strait from Fort Confidence (Great Bear Lake) by way of the Dease. Kendall and Coppermine Rivers (p. 45-50), with fishing at Bloody Falls; food supplies, Hudson's Bay Co. arrangements and criticism of proposed expedition (p. 50-52).

3. Franklin Search proposals presented by Rear-Adm. J. N. Tayler (p. 96-99), and W. P. Snow (p. 99-104).

Maps: Baffin Bay with Davis and Barrow Straits, by Ross and Parry, 1818–20, and discoveries of Parry in 1822–23, Lyon in 1824, and Rae in 1847 (at p. 66). Barrow Strait, Prince Regent Inlet &c. with tracks of Prince Albert through Lancaster Sound, and into Prince Regent Inlet (at p. 72).

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## 45227. GREAT BRITAIN.

Arctic expeditions. Report of the Committee appointed by the Lords Commissioners of the Admiralty to inquire into and report on the recent arctic expeditions in search of Sir John Franklin, together with the minutes of evidence taken before the Committee, and papers connected with the subject. Presented to both Houses of Parliament by command of Her Majesty. London, Eyre and Spottiswoode, 1852. lix, 199 p., 2 illus., 2 fold. maps. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1852, v. 50, no. 1435)

Contains results of an inquiry by the Arctic Committee into the thoroughness of Austin's and Penny's search for Frankin in Wellington Channel in 1850–1851, dealing specifically with ice and current conditions in Wellington and Queens Channels and with the discovery of relics of the Franklin expedition in the vicinity of Beechey Island. Evidence was given by members of the expeditions of Austin and Penny, and of Capt. John Ross's 1851 expedition. Natives' reports of the Franklin expedition, comments by Pullen, Richardson, Scoresby and others were presented, also the official instructions given Lt. E. J. DeHaven, and

Capt. James Saunders. Selected topics in the evidence are noted below.

Report of the Arctic Committee (p. iii-vii) commends Penny and Austin, reviews the status of Franklin search, and recommends an expedition in 1852-1853 to the Barrow Strait area, Beechey Island as Appended are the Committee's instructions (p. x); review of Austin's activities, the Resolute (p. xi-xli), including Ommanney's report on the Assistance, scale of provisions, sledge equipment and clothing lists (p. xl-xli); and report of Penny's activities with the Lady Franklin and Sophia, Capt. A. Stewart (p. xlvii-lix), including voyage to Assistance Bay, spring sledging journeys into Wellington Channel, on Cornwallis and Devon Islands and ships' complements. Evidence follows (p. 2-199)

of 30 witnesses, listed p. 1. 1. Capt. H. T. Austin's expedition. Evidence of Capt. Austin: Franklin relics at Cape Riley and Beechey Island (p. 28), sledging activities (p. 32), ice conditions in Wellington Channel, ice navigation (p. 41-42), statement on his journal (p. 113), decision to terminate expedition (p. 39, 145) criticism of M'Clintock (p. 145), instructions from Admiralty (p. 149-50), fate of the Franklin expedition (p. 164-67), including discussion of ice conditions in Wellington Channel, Franklin relics at Cape Riley, Beechey Island and Cape Bowden, etc. Lt. R. D. Aldrich's (Resolute) evidence: ice conditions and ice navigation in Wellington Channel, game (p. 110-113), etc. R. C. Allen: incompleteness of search for Franklin documents, ice conditions in Wellington Channel, tides and tidal currents at Griffith Island, navigation season in Wellington Channel (p. 114-18). Dr. A. R. Bradford (Resolute): journey to Melville Island via Bathurst and Byam Martin Islands, game, Eskimo ruins (p. 106-107); sledge equipment, clothing, provisions, selection of personnel (p. 193-96). John E. Brooman's evidence on 131-32, 196-98). Lt. provisions (p. W. H. J. Browne's evidence: game, ice conditions in Wellington Channel, geological observations at Cape Walker (p. 118-119). Lt. J. B. Cator's evidence: ice conditions in Wellington Channel, game, ice navigation (p. 103-105). Lt. J. E. Elliott's evidence: ice conditions in Wellington Channel, and Franklin relics at Cape Riley (p. 138–39). Lt. F. L. M'Clintock's evidence: ice conditions and navigability of Wellington Channel, and

of Melville Sound south of Melville Island, coasts searched by M'Clintock, tides and tidal currents, Eskimo ruins on Melville Island, game (p. 86-89); physical condition of sledgers (p. 91-93); criticism by Austin (p. 145); detailed report on sledging and equipment for 11-man party on spring journey, with sketch of tent, sledge, lists of gear, clothing, food, notes on packaging, travel, routine (p. 181-91). Dr. G. F. M'Dougall's evidence on examination of McDougall Sound, ice conditions in Wellington Channel, tides, Eskimo ruins, game, etc. (p. 120-22). Lt. G. F. Mecham's evidence on ice conditions in Wellington Channel (p. 139-40). Capt. E. Ommanney's evidence: misunderstandings between Austin and Penny, navigability of Wellington Channel, Franklin relics at Cape Riley, ice navigation (p. 50), living off the land, description Cape Walker (p. 44-59); Adam Beck's report (p. 143-44). Lt. S. Osborn's evidence on ice conditions in Wellington Channel, fauna, Eskimo ruins, ice navigation, magnetic observations on Prince of Wales Island (p. 99-101); sledge equipment, clothing, provisions, etc. (p. 192-93).

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2. Capt. Wm. Penny's expedition: Capt. Penny's evidence: navigability of Wellington Channel, discrepancies in surveys of Cornwallis Island, tidal currents in Queens Channel, game (p. 1-12), search of Beechey Island, site of Franklin's winter 1845-46 camp (p. 12, 24-25), decision to terminate expedition (p. 60-62, 144-45), instructions from Admiralty (p. 150-52), living off the land, Eskimos and their migrations (p. 179-81), extracts from journal (p. 199). John Abernathy's evidence: ice conditions in Wellington Channel, tides and currents, and whalers crushed in ice (p. 94-98). Dr. R. A. Goodsir's evidence: ice conditions off north and east coasts of Cornwallis Island, game, tidal currents in Queens Channel, and Eskimo ruins (p. 73-77). Harwood's evidence on steamship in ice navigation (p. 82-83); Donald Manson's evidence on ice conditions, tidal currents and ice navigation in Wellington Channel (p. 77-80); Marshall's evidence on ice conditions, navigability, tides, currents, game, etc. in Wellington Channel (p. 62-66); Ryder's evidence on ice navigation (p. 83-84); Captain Alex Stewart's evidence on ice conditions in Wellington Channel, game (p. 12-14), amendments to evidence (p. 125-26), and exploration of Wellington Channel (p. 145-46). John Stuart's evidence on ice conditions in Wellington Channel, Franklin relies and Eskimo traces at Caswall Tower (p. 80-81). Dr. P. C. Sutherland's evidence on ice conditions in Wellington Channel, ice navigation, game, Eskimo ruins (p. 19-23); ice conditions near Prince Albert Bay (p. 122), and extract from journal (p. 199).

3. Capt. John Ross's expedition. Capt. Ross's evidence on ice and tide conditions in Wellington Channel, on Adam Beck's report of murder of Franklin expedition crews (p. 53–55), and on fate of Franklin's expedition (p. 153–54). Cmdr. C. G. Phillips' evidence on Beck's report, winter quarters of the North Star discovered, and ice conditions in Wellington

Channel (p. 67-70).

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Also: Capt. Henry Kellett's statement on the Franklin expedition, ice conditions in Bering Sea, and discovery of Herald Island (p. 168-70). Cmdr. W. J. S. Pullen's brief account of his 1849 boat expedition from Wainwright Inlet to Mackenzie River, ice conditions along the north coast, game, tides, harbors, natives, etc. (p. 127-30); and his second (1850) boat expedition to Cape Bathurst, including ice conditions, and ice navigation in small boats (p. 130-31). Dr. John Richardson's report on wood fragments from north Cornwallis Island, temperature comparison between Assistance Bay and Queens Channel (p. 123-24); on prospects of survival of the Franklin expedition (p. 174-79), including game, sledge equipment, clothing and provisions, flora, snow houses, etc. Also statement of Wm. Scoresby on the Franklin expedition, with comments on ice navigation, dog sledges, sledge boats, steam-powered sledges, etc. (p. 154-64). Official instructions to Lt. E. J. DeHaven, USN (p. xxxvii-xxxviii), and to Capt. James Saunders (p. 152-53).

Maps (two, at end) show coastal regions searched by parties of Austin's and

Penny's expeditions.

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#### 45228. GREAT BRITAIN.

Additional papers relative to the arctic expedition under the orders of Captain Austin and Mr. William Penny. Presented to both Houses of Parliament by command of Her Majesty. London, Eyre and Spottiswoode, 1852. iii, 368 p., 66 illus., 28 maps incl. 6 fold. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1852, v. 50, no. 1436)

Contains extensive and detailed reports by sledgers from Austin's expedition of 1850-51 wintering at Griffiths Island (the Resolute, the Assistance, Capt. Ommanney, with steam tenders Pioneer, Lt. Osborn, and Intrepid, Lt. Cator) covering journeys along the coasts of northern Prince of Wales, southern Cornwallis, Bathurst, Byam Martin and Melville Islands; also sledgers' reports from Penny's expedition (the Lady Franklin, and Sophia) wintering in Assistance Bay, Cornwallis Island, covering journeys into Wellington and Queens Channels, over most of the Cornwallis Island coast, and parts of western and southern Devon Island; together with translations of natives' reports of the Franklin expedi-These papers are concerned exclusively with the Eastern Arctic.

1. Capt. H. T. Austin's expedition: sledging program, names of crew, ration scale, lists of sledge equipment and clothing (p. 10-13, 251); general instructions and orders (p. 284-93). Reports of sledging parties (usually comprising the leader's instructions, summary report, journal, a track chart, sometimes pencil sketches of features observed): Lt. R. D. Aldrich, his journey to Cape Martyr on Cornwallis Island and Somerville Island, to western Bathurst Island (p. 3-4, 112-31), including meteorological data and observations on sledge navigation, game, sastrugi (p. 116, 124), provisions, equip-R. C. Allen's journey to ment, etc. Somerville, Garrett and Lowther Islands (p. 241-50), with observations for position, magnetic variation, game, pressure ice conditions, celestial phenomena, equipment, with map and description, of Lowther Island (p. 249) and Garrett Island (p. 250). Dr. A. R. Bradford's journey to east Melville Island (p. 202-226) with observations on game, ice conditions, magnetic variation, description of coasts of Bathurst, Byam Martin and Melville Islands. Lt. W. H. Browne's journey along the Peel Sound coast of Prince of Wales Island (p. 28-30, 64-75), his journal including meteorological data, and observations on game, celestial phenomena, geology, description of coasts, and geological description of Cape Walker on Russell Island. Lt. J. B. Cator's account of HMS. Intrepid (steam tender attached to Austin's expedition) in pressure ice Aug. 27-28, 1851 in Baffin Bay (p. 297-98). J. P. Cheyne, his journey to Cape Capel on Bathurst Island (p. 235-40), with observations of Eskimo ruins, game, clothing and equipment. Dr. Charles Ede's journal of his journey to Cape Walker and west to Baring Channel, with his observations on game, celestial phenomena, brief penetration of Peel Sound, geology, Eskimo ruins, meteorological data, a geological sketch of Cape Walker, medical observations, etc. (p. 76–82). R. V. Hamilton's journey to Cape Walker and west to Baring Channel (p. 104–112), with observations on celestial phenomena, game, ice conditions, geology, examination of Young and Lowther Islands (p. 109), equipment.

F. J. Krabbé's journey to Cape Walker (p. 83-87), with meteorological data, and observations on game, celestial phenomena, equipment, ice conditions, etc.; also (p. 270-76) a second journey to Cape Walker. Lt. F. L. M'Clintock's journey of Oct. 2-9 along the southwest Cornwallis coast to Intrepid Inlet (p. 5-8); his spring (Apr.-July) journey west along Cornwallis, Bathurst, and Byam Martin to Melville Island and around Dundas Peninsula: his instructions, report and journal of the trips are given (p. 136-92), the journal includes discovery of Parry's records, observations on game, meteorology, position fixes, magnetic variation, geology, sastrugi, celestial phenomena, flora, coal outcrops; also descriptions of the Byam Martin and Melville coasts, ice conditions, Eskimo ruins, sledging diet, equipment, etc., with sketches of topographic features (Dealy Island p. 158, Winter Harbour p. 174, etc.) and (at 143) a track chart. George F. M'Dougall's April journey to Somerville, Browne, and southwestern Cornwallis Islands, is reported (p. 13-20) with observations on Eskimo ruins, meteorology, etc.; also his May-June trip (p. 276to examine McDougall Sound, between Cornwallis and south Bathurst, with observations on game, position fixes, Eskimo ruins, and vegetation, including visits to Neal and Truro Islands; Walter May's April journey to Byam Martin Island (p. 226-35), with sketches of Intrepid Inlet, Cape Cockburn, and Allison Inlet, together with meteorological data, remarks on provisions, equipment and clothing; also his June-July journey around Griffith Island, with description of coasts, Eskimo ruins, flora, sketches, maps, together with Midshipman Clements Markham's journal of this trip (p. 264-70). Lt. G. F. Mecham's April-May journey to Cape Walker and Baring Channel (p. 29, 53-63), with observations

on game, celestial phenomena, Eskimo ruins, geology, sketch of Cape Walker. track chart; also his second journey to Cape Walker, 74°05' N. 97°36' W., and Baring Channel in late May-June (p. 251-64), with observations on ice conditions, position fixes, magnetic variation, game, examination of Baring Channel, Lowther Island (p. 258), provisions, equipment, meteorological data, etc., sketches. Capt. E. Ommanney's journey to Cape Walker and west along the north and west coasts of Prince of Wales Island (p. 22-52), his journal (p. 30-52) including meteorological data, description of coasts, observations on game, Eskimo ruins, celestial phenomena, geology; Ommanney's report of the Assistance (1851) voyage east from Griffith Island to Greenland, describing landings made at Cape Warrender (southeast Devon Island) and on the Carey Islands, is given (p. 293-94). Lt. Sherard Osborn's journey to Allen Bay and Cape Martyr on southwest Cornwallis is reported (p. 9, 87-89, 295) and journal of his April-June journey to Cape Walker and western Prince of Wales Island is given (p. 89-103) with meteorological data and observations on game, celestial phenomena, geology, position fixes, magnetic variation, ice conditions, equipment, etc. R. B. Pearse's April journey to Cape Cockburn on Bathurst Island (p. 131-36) with observations on game, meteorology, equipment, provisions, description of coasts, etc.; and W. B. Shellabear's journal of a journey also from Griffith Island to Cape Cockburn (p. 193-202), contains observations on meteorology, game, Eskimo ruins (on Cornwallis), equipment, etc.

2. Capt. Wm. Penny's expedition: Admiralty's rejection of his services (p. 300). Dr. R. A. Goodsir's report (1851) covering the journey along the east coast of Cornwallis Island (p. 341-46) to Depot Point, with observations on geology, etc.; report of the journey of Goodsir and Marshall along the east and north coasts of Cornwallis Island (p. 346-59) with observations on game, ice conditions, geology, description of coasts, Capt. Alex Stewart's journal, Apr .-June 1851, covering sledge trips into Wellington Channel (p. 303-316) to Cape Becher on the west coast of Devon Island, including observations on ice conditions, equipment, game, Eskimo ruins, and descriptions of coasts, etc. Dr. John Stuart's report of journey (1851) across Wellington Channel and east along the south coast of Devon to Radstock Bay (p. 360-65), with observations on game, tides, Eskimo ruins, Franklin relics at Beechev Island and Caswall Tower, ice conditions, etc.; also his report (p. 366-67) of a journey along east coast of Cornwallis Island. Dr. P. C. Sutherland presents a detailed report (p. 317-40) of Capt. Stewart's journey to Cape Becher, with observations on meteorology, geology, flora, fauna, celestial phenomena, position fixes, ice conditions and thickness in Wellington Channel, Eskimo ruins, whalebones found inland, migrations of birds, descriptions of the coasts of Devon Island, etc.

3. Reports of the Franklin expedition by natives: Translations of reports by Adam Beck and Erasmus York (p. 301-

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Maps (28, mostly sledge track charts) show southwest Cornwallis Island, M'Clintock's sledge journey Oct. 1850 (p. 8); and Allen Bay as sketched by Osborn (p. 9); M'Dougall's journey in Apr. 1851, along southwest Cornwallis (at p. 20).

Russell and Prince of Wales Islands coasts, southwest of Cape Walker, discovered by Ommanney (fold. map at p.

G. F. Mecham's journey Apr.-May 1851 to Russell Island and Baring

Channel (at p. 63).

Prince of Wales Island: part of the coast south from Cape Walker as explored by Lt. Browne, 1851, penetrating Peel Sound (at p. 74).

Dr. Charles Ede's trip to the north coast of Russell Island, with geological

sketch of Cape Walker (p. 81). Griffith Island to Cape Walker, trip by

F. J. Krabbé (at p. 87).

R. V. Hamilton's journey along the north coast of Russell Island (at p. 112). Bathurst Island south and west coasts,

R. D. Aldrich's journey touching on Byam Martin Island (at p. 117).

R. B. Pearse's journey to Cape Cockburn on southwest Bathurst Island (at

p. 136).

South coast of Bathurst Island, around Byam Martin Island, and along east and south coasts of Melville Island as far west as Dundas Peninsula and Liddon Gulf: trips of Lt. M'Clintock and Dr. A. R. Bradford (fold. map at p. 143).

Melville Island south coast: survey of Bridport Inlet and Dealy Island by M'Clintock (p. 158); Skeyne Bay, showing track into Beverly Inlet, by M'Clin-

tock (p. 177).

Shellabear's trip, Griffith Island to

Cape Cockburn (p. 200).

South Cornwallis, Bathurst, Byam Martin and east Melville Islands: track of Dr. Bradford (fold. map at p. 203). Intrepid Inlet, southwest Cornwallis Island, by W. W. May (p. 228).

May's trip, Griffith Island to Cape Gillman on Byam Martin (at p. 235).

Cheyne's trip to Cape Capel, southeast

Bathurst Island (p. 240).

West side of Lowther Island, Garrett Island, by R. C. Allen (p. 249, 250); and his track chart to Lowther, Garrett and Somerville Islands (fold. map at p. 250).

Russell Island, Baring Channel, Lowther Island, examined by G. F. Mecham

(fold. map at p. 263).

Griffith Island sketch maps, showing track of W. W. May, position of Eskimo ruins, rookeries, etc. (p. 266-68).

Griffith Island to Cape Walker, F. J. Krabbé's trip in May 1851 (at p. 276). McDougall Sound, by G. F. M'Dougall

(at p. 282).

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#### GREAT BRITAIN. 45229.

Arctic expedition: further correspondence and proceedings connected with the arctic expedition. Presented to both Houses of Parliament by command of Her Majesty. London, Eyre and Spottis-woode, 1852. 216 p. 9 illus., 4 maps incl. 1 fold. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1852, v. 50, no. 1449)

Major document. Contains reports, covering 1850-1852, of expeditions in Bering Strait under Collinson's command (Wellesley, Pullen, Moore, and Hooper); reports of expeditions in the Eastern Canadian Arctic by De Haven, John Ross, Austin, and Penny; and reports by Rae of his expedition to southwestern Victoria Island. Numerous letters are included, speculations on the activities of the Franklin Expedition, various proposals for further search, etc.

1. Bering Strait expeditions: Reports of Capt. Richard Collinson (the Enterprise) for 1850-51 are given: p. 11-14, 23-93, 147-87, 201-215; correspondence with the Hudson's Bay Company about his expedition is included (p. 11-14). Report of Cmdr. W. J. S. Pullen (the Plover) on a boat expedition from Wainwright Inlet eastward along the north coast of Alaska to the mouth of the Mackenzie River in 1849 (p. 23-33) is followed by his report on a further boat expedition, July-Oct. 1850, eastward along the north continental coast from the Mackenzie River to Cape Bathurst (p. 33-56), wintering at Fort Simpson, and overland trip to York Factory to sail for England (p. 56-65). Provisions aboard the Plover and Enterprise are listed (p. 68, 72). Detailed report is given of the murder of Lt. John Barnard by natives at Darabin, Alaska (p. 74-78). Instructions to Capt. G. G. Wellesley of the Daedalus to refit the Plover, and Wellesley's report, Oct. 1851, of his voyage and resupply operations at Port Clarence are given, with list of stores on the Plover, and a medical survey of the crew of the Daedalus, also report on a mutiny aboard the schooner Eliza at Port Clarence, and a list of whaling ships lost in Bering Strait, summer 1851 (p. 79-89, 147). Cmdr. Moore reports on activities of the Plover, July-Sept. 1851 (p. 89-91). Journal follows (p. 91-93) of a sledge trip in May 1850 by John Simpson, surgeon on the Plover, examining the inner Hotham Inlet region, Kotzebue Sound, with description of Lake Selawik, and map facing p. 92. Journal of Wm. H. Hooper, mate of the Plover, in charge of part of Cmdr. Pullen's party, describes (p. 148-86) his journey from Fort McPherson to Great Bear Lake, and south to Fort Simpson, Sept. 1849-June 1850. He notes weather and travel conditions, auroras, terrain, natives encountered, etc.; also lists (p. 179-86) about 150 Eskimo (Barrow to Cape Bathurst) words stressing similarity to the coastal, and difference from the inland Chukchi dialect. Capt. T. E. L. Moore reports on the Plover, Oct. 1850-Apr. 1851: wintering at Port Clarence, poor food supplies, scurvy, its disappearance when game was obtained, etc. (p. 201-204). Report of Lt. John Barnard Dec. 1850, of his visit to St. Michael is included, together with correspondence of 1851 concerning his death (p. 204-215). Cmdr. Moore's orders of July 1851 to proceed north, are given (p. 215).

Dr. John Rae reports (p. 15-23) on his sledge trip, Apr.-June 1851, from Fort Confidence down the Coppermine River and along the southwest coast (map at

p. 15) of Victoria Island.

2. Eastern Canadian Arctic Expeditions: Reports, Aug. 1850-Sept. 1851, of the U. S. expedition under Lt. E. J. De Haven, with the Advance and Rescue to Barrow Strait and Wellington Chan-

nel, are given (p. 3-4, 188-200). Capt. Sir John Ross reports concerning the expeditions of Austin, Penny and Ross (p. 4-6) in Barrow Strait and Wellington Channel, and his own voyage, Aug.-Sept. 1851 (on the Felix, Cmdr. Phillips) to Baffin Bay and England (p. 7-10). Reports of Capt. Wm. Penny and six of his officers (the Sophia, and Lady Franklin) to the Arctic Committee, Oct. 1851, on the wintering of the Franklin Expedition at Beechey Island are given (p. 111-24). They include detailed observations on Franklin's winter quarters (p. 112-14), description of the coast of Wellington Channel (p. 114-15), fragmentary wood found (p. 115, 121-25), cairns discovered (p. 115-16), ice conditions in Wellington and Queens Channels (p. 116), tides and currents (p. 117), animals (p. 117-18), climate (p. 118-19, 121), position fixes (p. 119), and list of articles found at Beechey Island (p. 120). Improvements to the provisions, clothing and equipment supplied to arctic traveling parties are recommended by Capt. H. T. Austin, Dec. 1851 (p. 106-110) and by Cmdr. W. J. S. Pullen (p. 110-11); itemized lists for an eight-man party are included. Geological and natural history specimens collected by the Resolute in 1850-1851 are listed (p. 126-28), and geological description is given (by Richard King) of Whalefish, Duck and Carey Islands, Bylot Island (Possession Bay), south coast of Devon Island (including Beechey Island and Cape Warren), Cornwallis Island (Barrow Inlet), and Griffith Island, together with natural history Report of the entry of whaler Prince of Wales into Jones Sound in 1848 is added (p. 128).

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3. Speculations are made, 1849-1851, on the activities of the Franklin Expedition, by Capt. J. C. Ross, J. Romme, and John Shillinglaw (p. 130-32). Proposals for further search expedition were submitted in 1851-1852 by Lt. B. C. T. Pim, Lt. Wm. H. Hooper, Capt. Wm. Penny, Lt. S. Osborn, Cmdr. R. Maguire (p. 94-106); Major J. Bentham (p. 129), John Christopher, Lt. Col. C. H. Smith, Lt. John Gilmore (p. 132-35); by Dr. Robt. M'Cormick, Cmdr. Pullen, Capt. John Ross (p. 137-42), and Donald Beatson (p. 215-16); Augustus Petermann's plan of search is given (p. 142-46, and fold. map); he advocates the so-called open sea route between Novaya Zemlya and Spitsbergen to the Chukchi Sea. Correspondence with Russian government regarding the Franklin Expedition is given (p. 125–26); and translations of statements made by the interpreter Adam Beck regarding the reported murder of Franklin expedition personnel by natives in northwest Greenland (p. 135–37).

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Maps (four) comprise: a rough tracing of the coast examined by Dr. John Rae during May 1851: southwestern Victoria Island, from Richardson Island, west and north to Prince Albert Sound (at p. 15); a small thumbnail sketch map of the area west of Mackenzie River (p. 47); chart of John Simpson's journey in May 1850, to the eastern end of Hotham Inlet, Kotzebue Sound (at p. 92); polar chart (at p. 142) illustrating Petermann's paper, with Franklin's position indicated as in the Chukchi Sea, and a relief route between Spitsbergen and Novaya Zemlya across the Arctic Basin shown.

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## 45230. GREAT BRITAIN.

Copy of an account of the Naval receipt and expenditure, for the year ended the 31st March 1851. Ordered by the House of Commons to be printed, 3 February 1852. 6 p. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1852, v. 30, no. 14)

Contains Supplementary estimate 1850-51 covering cost of the Franklin search expeditions under Capt. H. T. Austin, and Capt. Wm. Penny.

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## 45231. GREAT BRITAIN.

Preserved meats, Navy. Returns [to an order of the Honourable the House of Commons, dated 5 February 1852] showing the date and terms of all contracts for preserved meats for the use of Her Majesty's Navy; also the quantities issued . . . specifying the quantities fit for use, as well as the quantities either condemned or returned into store as unfit for use, from any of Her Majesty's stores or ships, whether at home or abroad . . . Ordered by the House of Commons to be printed, 13 February 1852. 6 p. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1852, v. 30, no. 59) also pub. as: House of Lords, Accounts and papers, 1852, v. 17, no. 29.

Contains tabulated data concerning contracts for salt beef and pork, giving date, quantity, price/lb., packaging, rejection penalty, security required, period of warranty, ships supplied, etc. Data are included for seven arctic expeditions 1839-1850, including Franklin's last. Some supplies to the Assistance and Resolute (Capt. Austin) were condemned. Copy seen: DLC.

#### 45232. GREAT BRITAIN.

Arctic expeditions. Return to an address of the Honourable the House of Commons dated 20 February 1852, for: Papers in connection with the late arctic expeditions, or with any which may be in preparation. In continuation of the papers presented to the House on the 7th March 1851, and on the 3rd February 1852.Ordered by the House of Commons to be printed, 27 February 1852. (Great Britain. 18 p. Parliament. House of Commons. Sessional papers. Accounts and papers, 1852, v. 50, no. 115)

Contains letter by Capt. Wm. Penny, Jan. 1852, protesting the Admiralty's refusal to use his services in the renewed search for Franklin (p. 1–12); also letters, etc., about current rumors of the Franklin Expedition being at Byron Bay in the Hawaiian Islands, and translation of Adam Beck's deposition, cf. No. 45235.

Copy seen: DLC.

#### 45233. GREAT BRITAIN.

Arctic expedition. Return to an order of the Honourable the House of Commons dated 6 April 1852, for: Copy of the report of Dr. Rae, of the proceedings of the arctic searching expedition under his command, since the 10th day of June last, with a sketch of his route. Admiralty, 6 April 1852, J. H. Hay, Chief Clerk. Ordered by the House of Commons to be printed, 6 April 1852. 12 p. fold. map. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1852, v. 50, no. 248)

Contains report of the boat expedition, June-Sept. 1851, from Fort Confidence to the mouth of the Coppermine River, eastward along south coast of Coronation Gulf past Capes Barrow, Flinders, and Alexander to Finlayson Islands (p. 3); eastward around Cambridge Bay and past Cape Colborne and Parker Bay to southeast Victoria Island (p. 4); thence north past Taylor Island and Cape Adelaide (p. 5) to Cape Alfred, John Halkett Island, almost to Pelly Point (70°11' N. 100°51′ W.) on Aug. 13 (p. 6.). Retracing his track southward, Rae penetrated deeply into Albert Edward Bay, returned to Cape Adelaide, and traveled the coast south and west into Parker Bay, where a wooden relic, possibly from Franklin's expedition, was found. He continued west along south coast of Victoria Island across Cambridge Bay (p. 9) to Ross Point, across Coronation Gulf to Cape Krusenstern, Cape Kendall and up the Coppermine River to Fort Confidence on Sept. 10. Rae's report contains numerous astronomic fixes, observations on flora, fauna, geology, ice conditions, etc. Map of the coast examined by Rae in spring-summer 1851, shows the tracks of this boat expedition, and the sledge trip made earlier in the same year northwestwards to Prince Albert Sound on west Victoria Island.

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#### 45234. GREAT BRITAIN.

Arctic expedition. Return to an order of the Honourable the House of Commons dated 4 May 1852, for: A return of the sailing orders given to Sir Edward Beleher relating to the arctic expedition. Admiralty, 6 May 1852. J. H. Hay, Chief Clerk. Ordered by the House of Commons to be printed, 7 May 1852. 4 p. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1852, v. 50, no. 317) See also No. 45238.

Contains Admiralty orders (1852) for Beleher to proceed with the Assistance, Resolute, Pioneer, Intrepid, and North Star to Lancaster Sound, establishing the North Star as depot ship at Beechey Island, and there dividing the expedition into eastern and western divisions to proceed, respectively, up Wellington Channel and west to Melville Island.

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#### 45235. GREAT BRITAIN.

Aretic expedition. Return to an order of the Honourable the House of Commons dated 6 April 1852, for: A copy of any further correspondence which has been transmitted to the Admiralty between Admiral Sir John Ross and the Danish Inspector-General, touching the fate of the expedition under Sir John Franklin. Admiralty, 18 May 1852. J. H. Hay, Chief Clerk. Ordered by the House of Commons to be printed, 21 May 1852. 12 p. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1852, v. 50, no. 390)

Contains statements and depositions made by Adam Beck, according to reports of Greenlanders regarding the reported murder of Franklin expedition personnel, with numerous speculations concerning the fate of Franklin.

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45236. GREAT BRITAIN.

Vessels in the North Atlantic. Return to an address of the Honourable the House of Commons dated 4 June 1852, for: Copies of communications between the Admiralty and any public authorities at home or abroad, in reference to certain vessels observed on an iceberg in the North Atlantic in 1851, and supposed to have been abandoned. Ordered by the House of Commons to be printed, 22 June 1852.

40 p. illus. plate, fold. map. (Great Britain. House of Commons. Sessional papers, Accounts and papers, 1852, v. 50,

no. 501).

Contains correspondence regarding report of the Renovation having sighted two ships on an iceberg drifting over the banks of Newfoundland in 1851. They were considered possibly to have been the Erebus and Terror of the lost Franklin Expedition, but more probably were abandoned whalers. Extracts from the Renovation's log (p. 27–28), sketches of the two vessels on iceberg are included, also fold. map showing the latter's position (due east of St. Johns) Apr. 18–22, 1851, with further information concerning the incident, signed by Ommanney.

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#### 45237. GREAT BRITAIN

Select committees, return to an order . . . . 3 August 1855. 12 p. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1854-5, v. 44, no. 489). Includes (p. 1) data on the Arctic Committee. cf. No. 45248

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## 45238. GREAT BRITAIN.

Arctic expeditions. Return to an address of the Honourable the House of Commons dated 19 November 1852, for: Copies of any correspondence received at the Admiralty from Sir Edward Belcher's squadron . . . and from any other of the arctic expeditions since the dates of the last returns . . . from Mr. Kennedy of the Prince Albert discovery ship; from Commander Inglefield of the screw vessel Isabel, reporting his discoveries and proceedings in the polar sea; of any plans or suggestions of search for Rear-Admiral Sir John Franklin, and the ships and crews of his expedition; and, of any further

correspondence on the subject of the arctic regions, since the last laid before this House in . . . session 1852. Admiralty, 16 December 1852, J. H. Hay, Chief Clerk. Ordered by the House of Commons to be printed, 20 December 1852. iv, 88 p., 3 fold. maps. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1852–53. v. 60, no. 82)

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Contains reports of arrival of Belcher's expedition at Beechey Island; Kennedy's reports of the voyage (Prince Albert) into Prince Regent Inlet; Inglefield's reports on voyage of the Isabel into Smith, Jones and Lancaster Sounds. In the Western Arctic, around Bering Strait, the activities of Moore, Frederick and Maguire are described. Finally, a number of additional search proposals are outlined.

1. Sir Edward Belcher's expedition with the Assistance, Resolute (Capt. Kellett), North Star, Pioneer and Intrepid: orders (1852) from the Admiralty, instructions on burial of records at cairns, ships' complements; reports en route to Greenland, on voyage north along the west coast, to Cape Warrender, and to Beechey Island (p. 1-13); visit of the Pioneer to Cape Castlereagh and Wollaston Islands, search of Beechev Island for Franklin expedition traces by Cheyne and Hamilton (p. 13-14, 19); Capt. Kellett's trip to Beechey Island, Franklin relics found at Caswall Tower, a bluff at the head of Radstock Bay, southwest Devon Island (p. 18-19). Cmdr. W. J. S. Pullen's reports on the North Star (p. 19-24) including his orders of 1852 from Belcher (p. 16), and from Kellett (p. 21), and the boat voyage to Maxwell Bay.

Capt. Wm. Kennedy reports (p. 25-32) on Lady Franklin's private expedition of the Prince Albert with Lt. Bellot aboard: voyage to Beechey Island and south into Prince Regent Inlet to winter quarters at Batty Bay on Somerset Island, activities Aug. 1851-Oct. 1852, including visit to Pond Inlet, being marooned two months at Port Leopold; winter at Batty Bay, and sledging south into Brentford Bay, where Bellot Strait was discovered; sledge trip westward across Franklin Strait to Prince of Wales Island, crossing overland to head of Ommanney Bay, returning to the east coast in Browne Bay, thence north to Cape Walker, and return to Batty Bay via the north and east coasts of Somerset Island. Fold. map shows track of Kennedy's sledge journey.

Capt. E. A. Inglefield's private expedition for Lady Franklin in the Isabel 1852 (p. 33-41): preparations, voyage into Baffin Bay along West Greenland coast, exploration of Smith Sound (Ellesmere coast), Jones Sound, entering Lancaster Sound to Beechey Island. Fold. map shows Inglefield's discoveries.

2. In the Western Arctic (Bering Sea region), Capt. T. E. L. Moore reports (p. 42-43, 65) on wintering 1851-52 of the Plover at Port Clarence; boat trip July-Aug. 1852 to Pt. Barrow under Cmdr. R. Maguire, his journal (p. 48-59) with comments on ice, coasts, natives; fold. map. Capt. Charles Frederick reports (p. 60-72) on summer 1852 voyage of the Amphitrite from Honolulu to Port Clarence with supplies for the Plover, cruise northward to Icy Cape; his survey of the Plover, with report of preserved meats, list of provisions, etc.

3. Franklin search proposals (1852) by Dr. John Rae, Cmdr. Henry Trollope, Capt. Wm. Penny, Lt. W. H. Hooper, Augustus Petermann; Capt. E. Ommanney's proposal for attempt on the North Pole by a steam vessel based on Spits-

bergen, etc. (p. 72-88).

Maps (three) show Somerset and north Prince of Wales Islands, Wm. Kennedy's discoveries (at p. 32); north end of Baffin Bay, Smith, Jones and Lancaster Sounds, Inglefield's discoveries 1852 (at p. 40); Bering Strait and northwest coast of Alaska from Norton Sound to Smith Bay, with inset of Moore Harbor, Pt. Barrow (at p. 59). Copy seen: DLC.

#### 45239. GREAT BRITAIN.

Ship Rattlesnake. Return to an order of the Honourable the House of Commons dated 27 April 1853, for: Copies of extracts of any minutes or other documents connected with the selection by the late Board of Admiralty of the ship Rattlesnake in preference to a steamer, for the purpose of endeavoring to communicate with the Plover; And copies of Instructions given . . . to the captain of the Rattlesnake. Admiralty, 3 May 1853. J. H. Hay, Chief Clerk. Ordered by the House of Commons to be printed, 4 May (Great Britain. Parliament. 1853. 4 p. House of Commons. Sessional papers, Accounts and papers, 1852-53, v. 60, no. 444) also pub. in No. 45241 (infra), p. 147-49.

Contains orders of 1853 from the Admiralty to Cmdr. Henry Trollope to proceed to Bering Strait with the Rattle-

snake, to winter at Port Clarence; also Admiralty orders (1853) to Cmdr. Maguire to contact the Rattlesnake in Grantley Harbor, Seward Peninsula, Copy seen: DLC.

#### 45240. GREAT BRITAIN.

Arctic regions. Return to an order of the Honourable the House of Commons dated 1 August 1853, for: Copies of the sailing orders and instructions to Commander Inglefield, of Her Majesty's Ship Phoenix, employed in the arctic regions; Of the instructions to Mr. Kennedy in command of the Isabel . . .; Of any orders and instructions given to Capt. Collinson, of the Enterprise, of a later date than the 15th day of January 1850; And, of any reports received from Captain Collinson of a later date than the 9th day of July 1851. Admiralty, 19 August 1853. John Jones Dyer, Acting Chief Clerk. Ordered by the House of Commons to be printed, 20 August 1853. 4 p. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1852-53, v. 60, no. 1013) also pub. in No. 45241 (infra), p. 1-2.

Contains Admiralty orders (1853) to Inglefield to proceed with the *Phoenix* and *Breadalbane* to Beechey Island, accompanied to Disko by the transport *Diligence*; Inglefield is to deliver stores, and return directly to England.

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#### 45241. GREAT BRITAIN.

Papers relative to the recent arctic expeditions in search of Sir John Franklin and the crews of HMS. Erebus and Terror. Presented to both Houses of Parliament by command of Her Majesty. London, Eyre and Spottiswoode, 1854. 225 p., 26 illus., 5 fold. maps. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1854, v. 42, no. 1725.)

Contents are largely comprised of an early report of Belcher's expedition, covering activities during the 1852-53 winter and spring of the eastern division (under Belcher himself) out of Northumberland Sound, the western division (under Kellett) at Dealy Island, and those of Pullen and the North Star at Beechev Island, the latter including M'Cormick's boat expedition up Wellington Channel. Inglefield's voyage of 1853 with the Phoenix and Breadalbane is also recorded. In the Western Arctic, from Collinson's expedition through Bering Strait, M'Clure's narrative of 1850-53 predominates, but reports are also included from Frederick, Maguire and Trollope.

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#### EASTERN ARCTIC

1. Capt. E. Belcher, with his eastern division, the Assistance and Pioneer reports (p. 13, 62-84) the voyage into Wellington Channel to winter quarters in Northumberland Sound, a boat expedition north across Belcher Channel to Cornwall Island, journeys westward across north Bathurst Island by Lyall and Cheyne; naming of new geographical features; Eskimo ruins; footwear of sledgers with illus. (p. 72); organization of sledge expeditions to the northeast under Belcher, and southwest under Richards (p. 75-77); depots established at Capes Majendie and Lady Franklin, Mount Beaufort, and Northumberland Sound; crews; fold. map (at p. 84) shows Belcher's discoveries through Wellington and Queens Channels to Cornwall Island.

2. Capt. Henry Kellett, with the western division, the Resolute and Intrepid, gives (p. 85-97) a condensed report (1852-53) of the voyage from Beechey Island westward to winter quarters at Dealy Island off the south coast of Melville Island, activities of the 1852 autumn sledge parties, one of which discovered message left by M'Clure at Winter Harbour; sledge journey by Pim to contact M'Clure at the Investigator's winter quarters in Mercy Bay, Banks Island (p. 87, 89-93); arrival at Dealy Island of the Investigator crew, in poor health; monthly temperature tabulation and wind directions (p. 95-97) at Dealy Island, 1852-53.

3. Cmdr. W. J. S. Pullen, at Beechey Island, North Star (p. 103-147): journal Aug. 1852-Feb. 1853 (p. 103-129), including visits by the Prince Albert and the Isabel (p. 105-108, 110-12); ice dock cut for North Star (p. 107); Pullen's expedition to Maxwell Bay, Devon Island; Eskimo ruins (p. 109); reference to reported entry of the Prince of Wales into Jones Sound (p. 111); M'Cormick's boat expedition (p. 113, 127); the North Star aground, and means adopted for her release (p. 115-23); wintering arrangements aboard ship, ice in Wellington Channel, birds and animals, mean, maximum and minimum temperatures at Beechey Island 1852, wind observations Jan. 1853, tidal currents (p. 124, 126, 129); dogs (p. 125, 128); clothing, victuals (p. 125-26). Reports of proceedings, North Star, 1852-53 (p. 131-36), with outline chart, showing position of the North Star in Erebus Bay, maps at end of the volume; journal of a sledge journey by Shellabear from Beechey Island across Wellington Channel to Cape Phillips on Cornwallis Island (p. 137-42). Drowning of Joseph René Bellot is reported (p. 142-47), cf. No. 1304, 27482

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4. Dr. Robert M'Cormick's boat expedition up Wellington Channel in 1852, from Beechey Island to Baring Bay (Owen Point) and return, is reported (p. 187-225), with numerous detailed observations on ice conditions, coastal features, flora, fauna, Eskimo ruins, geology, etc.; M'Cormick's report is illustrated with sketches of topographic features in southwestern Devon Island, viz. (in turn, except as pages cited): Cape Spencer, Lovell Point, Cape Bowden, Cape Mc-Bain, Cape Daniell (i. e. Bellot Point?), Emery Bay, Pim Point, McCormick Bay, Franklin Beacon (p. 196, 208), Cape Osborn (p. 197, 205), Mount Providence, Baring Bay (p. 199, 205, 217), Owen Point (p. 202, 203), Prince Alfred Bay, Eden Point, Rogier Head, Cape Thoms, Domville Point, Griffin Bay, and Caswall Tower, also Cornwallis Island, east coast. M'Cormick concluded his report with (p. 216-25) a list of game killed, dimensions of a polar bear; speculations on the Franklin expedition; views on preservation of health in the Arctic (p. 223-24), including recommendations regarding diet, provisions, clothing, exercise, medicines; and proposal for further search. M'Cormick's track chart is appended, map 3 at end of volume.

5. Capt. E. A. Inglefield: reports, etc. from his voyage with the Phoenix and Breadalbane June—Sept. 1853, to take supplies and coal to Belcher's base at Beechey Island and return at once to England (p. 1-20). Includes crushing of the whaler Rose, engineer's report on Greenland coal (p. 10), sinking of the Breadalbane, report of the drowning of

Bellot.

#### WESTERN ARCTIC

6. Capt. Robt. M'Clure in the Investigator: report (1850-53) of Investigator's passage (1850) eastward along the north continental coast to Point Warren (p. 24-29), and to Cape Bathurst (p. 29-33), with detailed description of Eskimos, Horton River and Smoking Mountains (p. 33-34), landing on Banks Island and penetration of Prince of Wales Strait to

winter quarters at Princess Royal Islands (p. 34-37); sledge journeys (1851) northeastward to Viscount Melville Sound (p. 37-39), along west coast of Victoria Island into Prince Albert Sound, with detailed description of Eskimos, discovery of copper ore (p. 39-40); sledge journey around northwestern Victoria Island into Hadley Bay, and along southeastern Banks Island (p. 40-41), failure of attempt to enter Viscount Melville Sound, return around south end of Banks Island, continuing northward up west coast (p. 43-46), entrance into M'Clure Strait to winter quarters at Mercy Bay (p. 49); spring (1852) sledge journey to Winter Harbour on southwest Melville Island (p. 50); second winter (1852-53) at Mercy Bay (p. 51-54); tabulated meteorological data 1850-53, game killed, daily rations, boats stores, etc.; arrival of Pim from one of Kellett's sledge parties at Winter Harbour, and movement of the Investigator's crew to Kellett's winter quarters at Dealy Island (p. 87, 89-93). M'Clure's despatches announcing discovery of Northwest Passage are delivered in England by Cresswell (p. 21-22). Map 4 at end of volume shows Northwest Passage as discovered by M'Clure.

7. Capt. C. Frederick in the Amphitrite: reports (p. 156-59) his 1853 voyage from Honolulu to Bering Strait and the northwest coast of Alaska, his survey of the

Plover.

8. Capt. R. Maguire in the Plover: report of the voyage (1852) from Port Clarence to winter quarters at Point Barrow, boat expedition eastward to Dease Inlet, sledge journey to the Colville River mouth, and return to Port Clarence (p. 160-63). Appended (p. 165-85) is Maguire's narrative covering the same period, with detailed observations on natives, their appearance, customs, manners, habits, thievery, villages, etc.; specific altercations with them, and means of handling such are described; orders (1853) from Admiralty (p. 149); report by Vernon of brief boat voyage southwest of Point Barrow (p. 185-86); map showing tracks followed by the Plover's traveling parties faces p. 186; survey of the Plover (p. 159).

9. Cmdr. H. Trollope in the Rattlesnake: orders and report Mar.—Sept. 1853 (p. 147-56) of voyage to Bering Strait to resupply the Plover, and return

to England.

Maps (5 fold.): Part of the discoveries of Capt. Belcher, 1852-53: west coast of

Devon Island, and isthmian connection between Cornwallis and Bathurst Islands

(at p. 84).

Journeys of Cmdr. Maguire: North Alaska coast with track of boat and sledge trip, Mar.-Apr. 1853, also positions of the *Investigator* and *Enterprise* by natives' reports (at p. 186).

Track chart of the east coast of Wellington Channel and the shores of Baring Bay, from Beechey Island to Owen Point, explored by R. M'Cormick, 1852

(at end of volume).

Northwest Passage discovered by M'Clure, also the coast explored by J. C. Ross in 1848–49; Richardson, 1848–49; M'Clure, 1850; Austin, 1850; Penny, 1850; Rae, 1851; Kennedy and Bellot, 1852–53; Inglefield, 1852, 1853; and Belcher, 1852–53 (at end of volume).

Position of the North Star in Érebus and Terror Bay, 1852–53: a large-scale map of the Beechey Island region showing locations of cairns and other landmarks, with positions of fast ice in the Bay on Aug. 9, 26, 1852, and Aug. 23, 1853 (at end of volume).

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#### 45242. GREAT BRITAIN.

Arctic expeditions. Return to an address of the Honourable the House of Commons dated 17 March 1854, for: Copy of letter addressed by Lady Franklin to the Lords Commissioners of the Admiralty, dated the 24th day of February 1854, in reference to their Lordships' announcement in the London Gazette of the 20th day of January 1854, respecting the officers and crews of Her Majesty's Ships Erebus and Terror; and of a copy of such notice. Ordered by the House of Commons to be printed, 24 March 1854. 14 p. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1854, v. 42, no. 129.)

Contains Lady Franklin's protest against the Admiralty's removal from the Navy List in 1854, of the names of members of the Franklin expedition as having died in Her Majesty's service.

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## 45243. GREAT BRITAIN.

Arctic expedition. Return to an order of the Honourable the House of Commons dated 4 April 1854, for: Copies of any instructions . . . to the commanders of Her Majesty's ships now engaged in the arctic regions in the search for Sir John Franklin's expedition. Admiralty, 7

April 1854. John Jones Dyer, Chief Clerk. Ordered by the House of Commons to be printed, 7 April 1854. 4 p. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1854, v. 42, no. 171).

Contains orders of 1854: to Cmdr Henry Trollope, to proceed in the Rattle-snake from Honolulu to winter at Grantley Harbor, Alaska; and to Cmdr. R. Maguire, to return the Plover to Valparaiso, when the crew of the Enterprise

is known to be safe.

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## 45244. GREAT BRITAIN.

Arctic expedition. Instructions from the Lords Commissioners of the Admiralty for the arctic expedition. Presented to Parliament by Her Majesty's command. Ordered by the House of Commons to be printed, 28 April 1854. 4 p. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1854, v. 42, no. 200)

Orders of Apr. 1854: for Capt. E. A. Inglefield to proceed with supplies aboard the Phoenix and Talbot to Beechey Island; and for Capt. E. Belcher, apprising him of the Admiralty's decision to withdraw from Franklin Search activities, and recalling the Assistance, Pioneer, Resolute, Intrepid, Enterprise, Investigator, North Star, Phoenix and Talbot.

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#### 45245. GREAT BRITAIN.

Further papers relative to the recent arctic expeditions in search of Sir John Franklin and the crews of H. M. S. Erebus and Terror. Presented to both Houses of Parliament by command of Her Majesty. January 1855. London, Eyre and Spottiswoode, 1855. iv, 958 p., 74 illus., 37 maps incl. fold. (Great Britain. House of Commons. Sessional papers, Accounts and papers, 1854–55, v. 35, no. 1898)

Most of this bulky volume is formed of reports arising directly out of Belcher's expedition, both its eastern (Belcher's) and western (Kellett's) divisions, 1852–1854. With his depot ship stationed at Beechey Island, off southwestern Devon Island, Belcher took the Assistance and Pioneer north into Wellington Channel to winter 1852–53 in Northumberland Sound. Meanwhile, the Resolute and Intrepid under Kellett sailed west to winter (1852–53) at Dealy Island, Bridport Inlet, south Melville Island. For the winter of 1853–54 Belcher's vessels

moved south to Baring Bay; Kellett's vessels were frozen in near Cape Cockburn, southwest Bathurst Island. these vessels were abandoned in 1854. The depot ship, North Star, under Cmdr. W. J. S. Pullen, remained at Beechey Island throughout. Thus the Belcher expedition papers comprise three groups, viz. those of Belcher, of Kellett and of Pullen. Two other expeditions are also referred to, which pertain to the Eastern Canadian Arctic viz., those of Inglefield (1854) and Rae (1853-54). In addition, relatively minor contributions to this volume are made by the expeditions and ships of Collinson (1851-54) in the Enterprise, Houston (1854) in the Trincomalee, M'Clure (1853-54) in the Investigator, Maguire (1853-54) in the Plover, and Trollope (1854) in the Rattlesnake, all of which operated almost exclusively in the Bering Sea and Western Arctic regions.

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#### EASTERN ARCTIC (Eastern Division)

1. Belcher's expedition, Eastern Division: Capt. E. Belcher's report outlining his sledge journey in 1853 from Northumberland Sound along the north coast of Grinnell Peninsula (northwest Devon Island) into the west end of Jones Sound sighting North Kent Island; examination of Arthur Fiord, and journey to Buckingham and Graham Islands in Norwegian Bay (p. 13-16); sledge crews from Assistance and Pioneer (p. 313); good harbor at Port Refuge and passage of Belcher's ships southward into Baring Bay, Wellington Channel (p. 17-20); discovery of traces of Bellot's equipment on ice floe (p. 18-19); report of winter 1853-54 at Baring Bay; orders (1854) from Admiralty (p. 1-3); schedule of traveling operations in spring of 1854 from the Assistance and Pioneer (p. 43); depots laid are tabulated (p. 44), and listed seriatim for Fife Harbour, Cape Cockburn, Assistance Harbour, Cape Hotham, Cape Bunny, Barlow Inlet, Cape Rescue, Point Lovell, Cape Lady Franklin, Mount Beaufort, Point Loney and Cape Majendie (p. 101-103); Belcher's report to Admiralty of activities out of Baring Bay, Mar.-Aug. 1854, with resumé of Kellett's sledge expeditions from Dealy Island, and abortive effort to contact Collinson's Enterprise (p. 48-51); medical condition of crews, including the Investigator's, and events leading to abandonment of Belcher's ships (p. 52-54); report on abandonment of the four

vessels of Belcher's squadron (p. 60–66); details of memorial tablet at Beechey Island (p. 63); documents deposited at Cape Hotham (p. 86) and Beechey Island (p. 66–68), including stores and provisions lists; return voyage from Beechey Island of North Star, Phoenix and Talbot to England (p. 64–66). The officers under Belcher's command, as part of his eastern division were: Cmdr. G. H. Richards, Lt. Cmdr. Sherard Osborn, Lts. J. P. Cheyne, Walter W. May, H. W. Pim, Drs. D. Lyall and J. B. Ricards, together with W. B. Shellabear (2nd Master), F. W. Pym (Mate), J. F. Loney (Master), F. B. Herbert (Mate), J. B. Grove (Mate) and J. H. Allard (Master). Their reports are listed in that order.

2. Cmdr. G. H. Richards: report (Aug.-Sept. 1852) of boat expedition from Northumberland Sound north to Exmouth and Table Islands in Belcher Channel, containing topographical descriptions of each (p. 117-22); report (Mar. 1853) of sledge journey from Northumberland Sound across Queens Channel to lay depots at Cape Lady Franklin on northeast Bathurst Island (p. 122-24); orders from Belcher to proceed west towards Melville Island (p. 305-307); report of an 860-mile sledge journey, Apr.-July 1853, from the Assistance in Northumberland Sound westward across north Bathurst Island and Byam Martin Channel, to Melville Island, around Sabine Peninsula into Hecla and Griper Bay, thence south to visit Kellett in the Resolute at Dealy Island, returning to the Assistance by way of eastern Melville and north Bathurst Island, with list of sledge crew, scheme of victualling sledgers, and scale of victualling (p. 180-85), also track chart at p. 188. Richards' journal of same journey is given (p. 314-40) in much greater detail, including numerous meteorologic and astronomic observations, geologic and topographic descriptions, flora, fauna, game killed, etc., with abstracted distances and travel times (p. 340); speculations on the Franklin expedition (p. 340-43); progress reports to Belcher en route from Point Deception, Point Success, and Melville Island (p. 307-309). Richards' orders from Belcher (p. 29-31, 373-75) and report of his sledge journey Feb.-May 1854 from Baring Bay down Wellington Channel to Beechey Island (p. 344), thence westward to the Resolute in Barrow Strait southwest of Cape Cockburn (p. 20–22); Richards' journal of this journey (p. 375–85), his meteorological record en route Feb. 22–May 4 (p. 55), and report of his arrival aboard the

Resolute (p. 385-86, 395-96).

3. Lt. Cmdr. Sherard Osborn: orders from Belcher to accompany Richards (p. 187), orders from Richards to return from Melville Island to Northumberland Sound (p. 210-11, 311-12); Osborn's journal Mar. 1853 of the sledge journey from Northumberland Sound to Cape Lady Franklin (p. 125-28) with sketches of Spit Island, Cape Lady Franklin and Cape Sir John Franklin; sledge crew, equipment and weights (p. 185-86); journal, Apr.-July 1853, of the sledge journey to Melville Island (p. 188-253). including list of sledges in Southwestern Division (p. 188-89); sketches of Cape Sir John Franklin and coastal features of Bathurst Island, Cape Lady Jane Franklin (p. 190, 191); also sketches of Cape Smart (p. 196), Cape Fortune (p. 198), Cape Success (p. 201), Weatherall Bay (p. 206), North West Cape (p. 208, 209); Capes Fortune and Richards (p. 218), north coasts of Bathurst Island (p. 223, 225, 227), Helen Island (p. 228), Saffron Hill, Cape Lady Franklin (p. 235, 236), Hooker Islands (p. 239), islands in Queens Channel (p. 240, 241, 253), Foul Weather Bay (p. 248); track chart across Queens Channel at p. 218 (cf. Richards' map at p. 188); Osborn's journal contains many magnetic and astronomic observations, bearings, meteorological data, etc., besides topographic descriptions and observations on geology, flora, fauna, soils, etc.; list of fossils and geological specimens collected (p. 254); remarks on ice conditions, tides and currents, driftwood (p. 255-58); reports of proceedings (p. 258-61); abstracts of times and distances (p. 262-63 and 186); list of birds and animals killed (p. 186); a series of sketches (p. 449-53) on the 1853 journey from Northumberland Sound westward across north Bathurst and Melville Islands, including Capes Colquhoun, Fortune, and Success, Helen Island and islands in Queens Channel; sketch maps of Lady Franklin Peninsula and Loney Island, and the west coast of Queens Channel (p. 454-57).

4. Lt. J. P. Cheyne: orders from Belcher to visit Cape Becher, and report of sledge journey thither from Northumberland Sound along the Grinnell Peninsula coast, northwest Devon and return, Apr.

21–28, 1853 (p. 139–43) also (p. 147–53) a second return journey to Cape Becher from Northumberland Sound, May 8–23, with a sketch of Cape Becher, abstract of distances traveled (p. 152), astronomic fixes, and map at p. 152; orders (1854) from Belcher to move to Beechey Island (p. 33–34, 433); orders from Richards (p. 393, 397); orders from Kellett (p. 413, 432–33) and report of sledge journey from Beechey Island to the Resolute, off Cape Cockburn, southwest Bathurst Island and return, Apr.–May, 1854 (p. 423–24), and from Beechey Island to

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Baring Bay (p. 433-34).

5. Lt. Walter W. May: orders (1853) from Belcher to accompany Richards (p. 272-81), and from Richards to return from Melville Island to Northumberland Sound (p. 284, 311); report of sledge journey from Beechey Island to Northumberland Sound (p. 162), and from there to Cape Lady Franklin (p. 128-30); report of sledge journey with Richards westwards across north Bathurst to northeast Melville Island (Boat Beach) and return (p. 281-88), including sketches of topographic features along north Bathurst Island, and abstract of times and distances; orders (1854) from Belcher (p. 34, 343 and 417), from Richards (p. 398-400). from Pullen (p. 399) and from Kellett (p. 432); reports of sledge journeys from Beechev Island to Assistance Bay (p. 361. 400), from Baring Bay to Beechey Island (p. 418, 431-32, 443-44); criticism by Belcher (p. 418); series of sketches of coasts of Wellington Channel (1852) on p. 458-68, including Capes Bowden, Osborn, Grinnell. Majendie, Becher. John Barrow Mount, Refuge (McCor-mick) Bay, Dundas Island and north coast Bathurst Island, Lt. H. W. Pim: orders (1854) from Richards, sledge crew. report of sledge journey from Beechey Island to Cape Hotham and Barlow Inlet (p. 445, 447-48).

6. Dr. D. Lyall: oxders (1853) from Belcher and from Richards (p. 170-72, 309-310); report (p. 144-45) and journal (p. 173-79) of the sledge journey from Northumberland Sound westwards to Cape Fortune on northwest Bathurst Island with Richards, list of sledge equipment with weights (p. 172); medical survey of crew of the Assistance, 1854, at Baring Bay (p. 389-91). Dr. J. B. Ricards: journal of journey from Northumberland Sound to Cape Lady Franklin in 1853 (p. 133-34); medical survey of crew of the North Star, 1854, at Beechey

Island (p. 347), and of the Investigator (p. 372). Mr. W. B. Shellabear (Second Master): journal, Sept. 1852, of a boat voyage from Beechey Island north to Cape Bowden (p. 288-90), with track chart (at p. 289) and sketch of Cape Bowden: orders from Pullen, and journal. Sept. 1853, of boat journey from Beechev Island to Cape Bowden (p. 290-93), with list of stores deposited; journal of sledge journey from Beechey Island to Baring Bay (p. 297-300), with stores list deposited at Bellot Point; orders (1854) from Belcher (p. 343); journal of a sledge journey from Beechey Island across Barrow Strait to Capes Rennell and Bunny on Somerset Island (p. 356-60); with sledge crew, and contents of the Cape Bunny depot; report of sledge journey from Beechey Island to the Resolute (p. 424) with list of sledge equipment; lists of provisions deposited at Assistance Bay and Cape Bunny (p. 425); abstracts of times and distances also track chart of Shellabear's journeys (p. 296). F. W. Pym (Acting Mar. 1853, of sledge Mate): journal, journey from Northumberland Sound to Cape Lady Franklin (p. 131-33); orders from Belcher and Richards and journal of sledge journey, Mar.-May 1854, from Baring Bay to Beechey Island and Assistance Bay (p. 343, 397, 401-407), with sledge weights. J. F. Loney (Master): Journal (1853) of sledge journey from Northumberland Sound to Depot Point on the north coast of Grinnell Peninsula 135-36); journal of local sledge journey in Baring Bay (p. 300); report (1854) of sledge journey from Beechey Island to Baring Bay (p. 444-45), with tabulation of provisions used. F. B. Herbert (Mate): orders, report and journal of his 1853 sledge journey from Northumberland Sound westward across north Bathurst Island to Point Success (p. 145-46, 163-69, 310), with sledge crew listed; orders (1854) from Belcher and report of sledge journeys from Bay to Beechey Island (p. 343, 419-20), from Beechey Island to Assistance Bay, with sledge weights (p. 388-89), and from Beechey Island to Cape Bunny via Assistance Bay (p. 353-54); sledge weights. J. Stuart's record found by M'Cormick at Baring Bay (p. 420).

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7. J. B. Grove (Mate): 1853 orders (p. 264, 294-95, 309) and journals of sledge journeys from Northumberland Sound across north Bathurst to Sherard Osborn Island (p. 137-49); from Northumberland Sound north and east along

coasts of Grinnell Peninsula to Jones Sound, examining Arthur Fiord, with sledge crew and load (p. 265-80); from Beechey Island to Baring Bay (p. 295); 1854 orders (p. 343, 349-50, 392-93, 426-27) and report of journey from Baring Bay to Beechey Island, with sledge weights (p. 428-29); journals of journeys from Beechey Island to Assistance Bay. with sledge weights (p. 352-53); from Beechey Island to Assistance Bay, with sledge weights and observations on ice conditions in Wellington Channel (p. 407-410). J. H. Allard (Master): orders (1853) and journals of sledge journeys from Northumberland Sound to Cape Lady Franklin (p. 130-31), to Depot Point and Princess Royal Island at 76°57' N. 94°17′ W. (p. 134-35, 154-61); local journey near Northumberland Sound (p. 136-37), sledge crew, abstract of distances (p. 161-62); orders (1854) and report of journey from Baring Bay to Beechey Island, with abstract of distances, sledge equipment, weights and crew (p. 411-416).

8. Cmdr. W. J. S. Pullen, in charge of the North Star at Beechev Island: journal of the North Star, Apr.-Aug. 1852, on voyage from England to Beechev Island (p. 733-45), with description of damage to ship, whalers encountered, wreck of the Regalia, ice conditions, etc.; report of the stranding and recovery of the North Star at Beechey Island, 1852-53 (p. 814-29); orders (1853) from Belcher (p. 22-24); tidal measurements at Beechey Island (p. 45-47); report of sledge journey from Beechey Island to Baring Bay (p. 300-304), with abstract of times and distances; journal of the North Star Mar.-Dec. 1853 at Beechey Island, including sledge journey to Hamilton and Dundas Islands, and to Cape Becher (p. 747-57), with map at p. 745; examination of the Beechey Island area (p. 758-60); North Star under ice pressure (p. 760-65); second sledge journey to Cape Becher (p. 766-74), with track chart; arrival of Inglefield with the Phoenix and Breadalbane (p. 774), astronomic fixes (p. 774) with variation; drowning of Bellot (p. 775-82); sinking of the Breadalbane (p. 783-84); tides (p. 784), departure of the Phoenix (p. 785), sawing a channel in the ice to release North Star (p. 787-88), mean monthly temperatures at Beechey Island (p. 746, 766, 790, 794, 795, 797, 806, 807, 822); sledge journey from Beechey Island to Baring Bay (p. 790-93); and tide register (p. 793-94). Orders

1854 (p. 31-35, 344, 394, 399); report of sledge journey from Beechey Island to Port Leopold, meteorological tabulation, depots visited, documents found on Somerset Island (p. 35-40); list of stores and provisions landed at Whaler Point by the Investigator and by the Enterprise (p. 41-43); reports of traces found of Franklin's expedition (p. 56-60); report of sledge journey from Beechey Island to Cape Rennell and Whaler Point on north Somerset, records deposited, temperature register, copies of records found, stores deposited at Whaler Point (p. 355-56, 361-71); report to Belcher of the arrival of Investigator's crew at Beechey Island (p. 371); journal of the North Star at Beechey Island, Jan.-Oct. 1854 (p. 795-813), with game list; journey to Port Leopold via Capes Hotham and Rennell, with tabulation of temperature en route (p. 797-802), arrival of the Investigator's crew, medical survey of North Star personnel with few found fit (p. 803); news of the Enterprise (p. 804); the North Star refloated, Assistance and Pioneer abandoned, arrival of the Phoenix and Talbot, resupply vessels from England, departure from Beechey Island and voyage to England (p. 808-813); fold. map of Beechey Island and Erebus Bay (at. p. 794).

9. Directly under Pullen's command at Beechey Island were Lt. Haswell, S. Court (Master) and R. P. Jenkins (Mate). Lt. W. H. Haswell (Investigator): orders (1854) from Pullen (p. 442); report of brief sledge journey from Beechey Island to Cape Grinnell (p. 442); report of sledge journey from the Resolute off Cape Cockburn to Beechey Island (p. 729-30); Stephen Court: orders, 1854, from Pullen (p. 45, 387), from Belcher (p. 429) and from Richards (p. 395, 397); report of sledge journey from Beechey Island east along the south coast of Devon Island to Maxwell Bay (p. 56-57, see also p. 447-48); reports of sledge journeys from Beechey Island to Cape Hotham, with sketch plan and description of depot (p. 388, 429-31). R. P. Jenkins: orders, 1854, from Pullen (p. 350, 354), from Richards (p. 350-51, 393-94), and from Kellett (p. 443); reports of sledge journeys: from Beechey Island west to Cape Hotham on southeast Cornwallis, with sledge crew, and list of provisions at Cape Hotham (p. 351-52); from Beechey Island west to the Resolute off Cape Cockburn (p. 354-55); from Beechey Island to Baring Bay (p. 422-23, 443); lists of provisions deposited at Cape Hotham and Assistance Bay (p. 425).

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#### EASTERN ARCTIC (Western Division)

10. Captain Henry Kellett, commanding the Western Division of Belcher's expedition with the Resolute and Intrepid at Dealy Island in Bridport Inlet, south Melville Island: compendium of traveling operations in spring 1853, compiled by Dr. G. F. M'Dougall, giving sledge crews, general direction of route, abstracts of times and distances, cairns built, charts compiled, game seen and shot, sledge loads, meteorological observations, remarks, etc. (p. 953-57); abstracts giving similar tabulated data for autumn 1852 and spring 1853 (p. 958); correspondence, 1853, with M'Clure regarding medical survey of crew of the Investigator (p. 69-72); report, 1853, to Belcher giving resumé of the 1853-54 sledging program (p. 73-75), release of ships from Bridport Inlet, besetment southwest of Cape Cockburn (p. 76-79), list of provisions and clothing at Dealy Island, scale of victualling, provisions deposited near Fife Harbour, Cape Cockburn, Assistance Harbour, north coast of Melville Island, and Dealy Island (p. 80-83); letter of Feb. 1854 from Belcher regarding abandonment of ships (p. 47-48); Resolute and Intrepid abandoned (p. 426); state of provisions aboard these vessels (p. 85-86); schedule of traveling operations 1852-54 (p. 104); abstract of game procured by the Investigator, Resolute and Intrepid 1851-53 (p. 105); animals, game list, meat account (p. 958). Kellett had the following officers operating out of his two vessels at Dealy Harbour 1852-53, and off Cape Cockburn 1853-54: Cmdr. F. L. M'Clintock, Dr. W. T. Domville, Lts. R. V. Hamilton, G. F. Mecham, and B. C. T. Pim, together with Messrs. F. J. Krabbé, G. S. Nares, Richard Roche, and Ensign E. F. De Bray. Their reports, journals, etc. are listed in that order.

11. Cmdr. F. L. M'Clintock: orders from Kellett and report of cart journey, Sept. 1852, from Bridport Inlet to Heela and Griper Bay (p. 469-78), including sledge crew, meteorological observations, astronomic fixes, topographical descriptions, snow-filled ravines and ice caves (p. 476), geological observations, etc., with track chart at p. 470; report of sledge journey, Oct. 1852, from Dealy Island overland to Heela and Griper Bay, with meteorological observations, flora, fauna, geology, etc. (p. 587-96); including

abstract of journey; orders (1853) from Kellett, sledge crews, and journal of a journey Apr.-July 1853 (p. 540-87) from Dealy Island overland to Hecla and Griper Bay, thence along the coast around northwestern Melville Island, south into Kellett Strait across Purchase Bay, returning to the north tip of Eglinton Island, down part of the west coast and across Crozier Channel to Point Wilkie on Prince Patrick Island; after tracing Intrepid Inlet, M'Clintock continued northeastward to the north tip of Prince Patrick Island by way of the Polynia Islands, and continued southwestward along the west coast, across Satellite Bay to M'Clintock Point; he returned along much of the same route but touched Emerald Isle on the passage from Giddie Point to Cleverly Point; track chart at p. 540; the journal contains meteorological observations, flora and fauna, topographical descriptions, geological observations, and detailed astronomic observations, bearings, etc., discovery of a Parry document of 1820 at Point Nias (p. 581), abstract of times and distances; at end are tabulations of astronomic observations, mean, maximum and minimum temperatures, also list of game seen and killed (p. 585-87); orders from Kellett and report of a return dog-sledge journey 460 miles, Apr. 13-28, 1854, from the Resolute and Intrepid off Cape Cockburn eastward to Beechey Island and north to Baring Bay, west Devon Island, to communicate personally with Belcher prior to abandoning the ships (p. 730-32).

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12. Dr. W. T. Domville: orders from Kellett and Pim (p. 664, 665, 672) and report of a sledge journey, Mar.-Apr. 1853, with Pim southwestwards along coast of Melville Island to lay a depot at Providence; the start across M'Clure Strait, damage to the sledge necessitating return to the Resolute, sledge crew (p. 664-69); temperature Mar.-Apr. 1853, aboard the Investigator at Mercy Bay, and the Resolute at Dealy Island, 12 observations daily (p. 670-71); report of sledge journey, May-June 1853, from Dealy Island southwestwards along coast of Melville Island to Cape Dundas and across Banks (now M'Clure) Strait to Mercy Bay (p. 672–77), with observations on geology, ice conditions, medical survey aboard the Investigator, scurvy symptoms and treatment, invalids, fauna, flora, living off the land, sledge crew, etc.; fold. map at p. 664; traces found at Beechey Island of Franklin's expedition (p. 57); orders from Kellett and report of a sledge journey in May 1854, moving the sick from the Resolute off Cape Cockburn eastward to

Beechey Island (p. 416-17).

13. Lt. R. V. Hamilton: orders and journal (p. 617-23) of a sledge journey, Sept.-Oct. 1852, from Dealy Island southwestwards along the coast of Melville Island to Cape Providence, with track chart on which open water spaces are plotted (at p. 618); meteorological observations, geology, flora, fauna and ice conditions, contents of depot at Fife Harbour and Cape Providence, abstract of the journey; remarks on equipment and increased weights of clothing and equipment following the journey (p. 623-24); orders, report and journal (p. 624–41) of a sledge journey, Apr.-June 1853, from Dealy Island overland to Hecla and Griper Bay, and around Sabine Peninsula, with fold. track chart at p. 616; the journal (p. 627-41), includes meteorological and detailed astronomic observations, topographic and geological descriptions, examination of Vesey Hamilton Island, flora, fauna, etc., meetings with Richards (p. 633) and Osborn (p. 634-35) from the Assistance, remarks on provisions and equipment, sledge crew, sledge weights and abstracts of distances (p. 641); orders from Kellett and report of sledge journey, May-June 1854, from the Resolute off Cape Cockburn on southwest Bathurst Island to Byam Martin Island and westward along the south coast of Melville Island to Cape Bounty, returning eastward to Beechey Island (p. 723-24); report of a sledge journey from the Resolute off Cape Cockburn eastward to Beechey Island (p. 348); report of sledge journey, Mar.-Apr. 1854, from the Resolute eastward to Beechey Island and north to Baring Bay (p. 724-28), including observations on meteorology, ice conditions, fauna, etc., sledge crews and abstract of distances with return journey to the Resolute; report of sledge journey from Beechey Island to Assistance Bay on south Cornwallis (p. 728-29).

14. Lt. G. F. Mecham: orders from Kellett and report of the journey, Sept.—Oct. 1852, from Dealy Island west along south coast of Melville Island to Winter Harbour, finding M'Clure's record there, continuing overland across Dundas Peninsula into Liddon Gulf, following its south coast westward to Cape Hoppner (p. 489–91); journal of the same journey (p. 491–97), including meteorological

observations, flora, fauna, etc., also remarks on equipment; orders from Kellett and report of the Apr.-July 1853 journey (p. 498-505) from Dealy Island westward to Winter Harbour, overland to Liddon Gulf, westward along its north coast and to Capes Smyth and Russell, across Kellett Strait, along the south coast of Eglinton Island, and across Crozier Channel to Butter Bay on Prince Patrick Island; continuing westward along the south coast, around Land's End, Mecham traveled northeastward up the west coast of Prince Patrick to about Cape Andreason (71°20' N., 118°45' W.); his return journey followed the same route except he went overland from Point Tullett into Walker Inlet, north across Mould Bay, around the north end of Eglinton Island, and south to Cape Russell on Melville; large fold. map at p. 498, includes sketches of Cape Mecham, Humphries Head, Cape Cam and Cape Nares. Journal of the 1853 journey (p. 505-537), contains sledge crews, meteorological observations, flora, fauna, discovery of fossil wood (p. 522-23), numerous astronomic observations, bearings, etc., topographic descriptions and an abstract of the journey; appended (p. 537-40) are: note of cairns discovered, tabulated astronomic observations, game procured, and names given new discoveries. Orders from Kellett and report (p. 87-95, 434-36, 689-90, 703) of Apr.-June 1854 sledge journey from the Resolute off Cape Cockburn west to Cape Providence on south Melville, and across M'Clure Strait to northwest Victoria Island, through Prince of Wales Strait to Princess Royal (72°41' N., 117°50' W.) and Ramsay Islands and return touching northeast Banks Island at Russell Point, then along a similar route to Byam Martin, thence eastward to Beechey Island, with scale of victualling, abstract of distances, records of Collinson 1851-54 found at Ramsay and Princess Royal Islands (p. 91-95), including depots laid by the Enterprise; fold. map at p. 688 shows Mecham's track; journal of the same sledge journey (p. 690-706) contains sledge crews, observations on meteorology, fauna, flora, ice conditions, driftwood, description of the land, view of ice hummocks (p. 694), discovery of the Enterprise documents (p. 697-99), meeting with Hamilton and Krabbé (p. 706), and concluding remarks.

15. Lt. B. C. T. Pim: orders from Kellett and journal of sledge journey in Sept.-

Oct. 1852, from Dealy Island southwestward along the south coast of Melville Island to Cape Providence (p. 611-17), with contents of depot there (p. 615), description of the land, observations on flora and fauna, general remarks, sledge crew, and abstract of times and distances: orders from Kellett and report (p. 646-50, 684) of a sledge journey, Mar.-Apr. 1853, from Dealy Island southwestward along the coast of Melville Island to Cape Dundas, thence across M'Clure Strait to join M'Clure and the Investigator at Mercy Bay; resumé of M'Clure's activities after parting from the Herald in 1851, game seen, description of the north coast of Banks Island, ice conditions in M'Clure Strait, advantages of sledging in early spring; journal (p. 650-60) of the same journey, with observations on weather, flora, fauna, ice conditions, details of the approach to Mercy Bay and meeting with M'Clure, tabulated traveling abstract; fold. map at p. 646 shows track of the journey; report of a sledge journey, May-June 1853, from Dealy Island crossing Melville Island to Hecla and Griper Bay, past Point Nias to Cape Fisher, with remarks on geology, fauna, etc. (p. 678-80) fold. map, journal of the same journey appended (p. 680-83), including sledge crew, topographic description, geology, fauna, weather, driftwood, coal, etc., also a meeting with Richards from the Assistance, discovery of a Parry (1820) document at Point Nias, abstract of times and distances, sledge weights (p. 684–85); orders (1854) from Richards (p. 397, 398).

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16. F. J. Krabbé (Master): orders from Kellett (p. 95-96, 707, 719); report of a journey, Apr.-June 1854, from the Resolute off Cape Cockburn, west to Cape Providence, thence across M'Clure Strait to Russell Point and Mercy Bay to visit the abandoned Investigator, with detailed report on the vessel (p. 96-98); abstract of distances, lists of stores and provisions landed at Mercy Bay, Princess Royal Islands, and Dealy Island; record deposited at Mercy Bay, list of sledge provisions (p. 98-101, 436-40), ration scale (p. 707). Journal of the same journey (p. 708-721) contains observations on meteorology, ice conditions, fauna and flora, topographic descriptions, notes on driftwood, geology, coal specimens collected, report on the Investigator (p. 714-16); also (at end) abstracts of time and distance, list of cairns built and records

deposited, list of game.

17. G. S. Nares, Mate: orders from Kellett, and journal of a Melville Island sledge journey Sept. 22-Oct. 16, 1852, with Mecham from Dealy Island west to Winter Harbour, overland to Liddon Gulf, and west to Cape Hoppner, with observations on meteorology, flora, fauna, etc. (p. 596-601); orders from Kellett, and journal of a sledge journey Apr. 4-May 29, 1853, with Mecham from Dealy Island westward to Winter Harbour overland to Liddon Gulf, thence westward along the north coast to Cape Russell and Eglinton Island (p. 601-610), track chart faces p. 600; report of sledge journey June 3-11, 1853, from Dealy Island westward to Winter Harbour and overland to lay depot for Mecham in Liddon Gulf (p. 610); report of sledge Mar. 7-Apr. 12, 1854, with journey Hamilton from Beechey Island westward Resolute off Cape Cockburn (p. 729). Richard Roche, Mate: orders from Kellett and Pullen, and report of sledge journey from Dealy Island eastward to Beechey Island (p. 685-87) with list of game killed, followed (p. 688-89) by journal of the same journey. Ensign E. F. De Bray: orders from Kellett and journal of a sledge journey Sept. 22-Oct. 8, 1852, with Pim from Dealy Island southwestwards along coast of Melville Island to lay a depot at Cape Providence, observations on meteorology, fauna, ice conditions, etc., abstracts of times and distances, sketch views of Capes Bounty and Providence, etc. (p. 660-64); orders from Kellett and M'Clintock and report of a sledge journey Apr. 4-May 18, 1853, with M'Clintock from Dealy Island overland to Hecla and Griper Bay, northwestwards along coast of Melville Island, and south along the west coast to Cape De Bray, with observations on meteorology, flora, fauna, etc., abstracts of the journey, sledge weights, and remarks on provisions, bedding, clothing, and rations (p. 478-89), track chart faces p. 478; orders from Kellett and report of a sledge journey May 8-23, 1854, from the Resolute to Beechey Island (p. 421-22).

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18. Capt. E. A. Inglefield with the Phoenix: orders (1854) from the Admiralty and progress reports (p. 1, 3-11) from voyage of the Phoenix to resupply Belcher's expedition base at Beechey Island: from Disko, and from Fourth Island, with track chart of the Phoenix east of Disko, description of Greenland coal deposits and engineer's report on the

coal (p. 6-8); continued voyage of the *Phoenix* (and the *Talbot*) north to Melville Bay, with description of the rookeries, entrance to Lancaster Sound, visit to the *North Star's* depot in Navy Board Inlet, and contact with the *North Star* at

Beechey Island.

19. Dr. John Rae's account of expedition from Repulse Bay (66°20' N. 86° W.) north and west to Rae Strait (p. 831-58) contains natives' report of starving Franklin survivors seen near the mouth of the Back River in 1850 and corpses discovered, also list of Franklin relics obtained by Rae (p. 831-33, 844); report of a boat voyage from Chesterfield Inlet to Repulse Bay in 1853 to winter quarters (p. 835); overland journey in the spring, Mar. 31-May 26, 1854, to Committee Bay, west across Simpson Peninsula to Pelly Bay, along Simpson Lake to Castor and Pollux River, Murchison River, etc., and to Shepherd Bay and Rae Strait (p. 837-43), with many astronomic fixes, observations on flora, fauna, and natives: descriptions, topographical features named, etc., fold. map at p. 830; correspondence with Hudson's Bay Co. (p. 833, 835, 844-58).

## WESTERN ARCTIC (Bering Strait)

Capt. R. Collinson with the Enterprise: brief report of 1851-54 voyage of the Enterprise (p. 943-44) from Port Clarence along the Alaskan coast past Point Barrow, along the continental coast eastward, across Amundsen Gulf into the north end of Prince of Wales Strait, returning to winter at Ramsay Island; sledge journeys reached Winter Harbour on Melville Island, north Victoria Island and Prince Albert Sound; moved east in the summer of 1852 to Cambridge Bay; a sledge party traced the east coast of Victoria Island north to 70°26' N.; returning westward, the Enterprise spent the third, 1853-54, winter on the north coast of Alaska and returned to England the following summer. Narrative containing more detailed account follows (p. 944-49) with fold. map at p. 943; tabulated data aboard the Enterprise, with monthly figures for number of sick, maximum, minimum, and mean temperatures, days above and below zero, days mercury frozen, ice thickness, maximum, minimum and mean barometric pressure, and latitude and longitude of wintering stations (p. 950); Franklin relics found near Cambridge Bay (p. 949, with illus. facing); records found on Princess Royal

Islands, on the east coast of Victoria Island, and at Camden Bay (p. 951); report (1854) of the voyage of the Enterprise from Port Clarence to Point Barrow, with numerous observations on the natives (p. 952).

21. Capt. Wallace Houston with the Trincomalee: voyage to Bering Strait to

join the Rattlesnake (p. 859-60).

22. Capt. Robert M'Clure with the Investigator: records deposited at Princess Royal Islands and Mercy Bay, with lists of stores and provisions (p. 83-85); arrival of Pim at Mercy Bay from Dealy Island in 1853 (p. 646-60); medical surveys of the crew of the Investigator (p. 52-53, 69-72, 372, and 674-75); temperature records at Mercy Bay, Mar.-Apr. 1853 (p. 670); M'Clure's proceedings from April to June 1853 with details leading to abandonment of the Investigator in Mercy Bay (p. 107-110), including list of provisions and stores at Mercy Bay and record deposited (p. 108-109); arrival of the Investigator's crew at Beechey Island (p. 371); report (1854) by Krabbé on the Investigator (p. 96-98).

23. Cmdr. Rochfort Maguire with the Plover: account (p. 906-916) of the 1853-54 voyage of the Plover from Cape Clarence through Bering Strait to Point Barrow winter quarters, sledge journey east to Cape Halkett, manners and customs of natives (p. 908-909), sledge journey to Point Berens, and to Wainwright Inlet, return of the Plover to Port Clarence and outward trip (1854) to Point Barrow, return of the Enterprise and resumé of Collinson's activities (p. 914-15); return to Port Clarence, return voyage to San Francisco, ship's survey of the Plover (p. 916). Detailed observations on the Eskimos and northwest coast of Alaska are given by Dr. John Simpson (p. 917-42) cf. No. 16122 of Arctic Bibliography, with fold. map showing Eskimo place names (at p. 916), and sketches of winter hut at Hotham Inlet

24. Cmdr. Henry Trollope with the Rattlesnake: proceedings aboard the Rattlesnake at Port Clarence from Sept. 1853 to June 1854 briefly reported (p. 899-900), and more detailed report (p. 861-68) including sledge journeys to Cape Prince of Wales (p. 863), to Kotzebue Sound (p. 865), arrival of the Trincomalee (p. 868), natives, etc.; proceedings (1854) aboard the Rattlesnake on the voyage through Bering Strait to Point Barrow, and return; report of return of the Enterprise to Port Clarence, with brief summary of Collinson's activities, and return of Rattlesnake south to San Francisco (p. 900-904); 1854 orders to Hobson and Bourchier and journals (p. 881-98) of Feb.-Mar. 1854 sledge journey from Port Clarence across Seward Peninsula at the entrance to Eschscholtz Bay in Kotzebue Sound to Chamisso Island, with observations on natives, weather, flora, fauna, topographical description, account of altercations with natives, etc.; journal of sledge journey Jan. 1854, from Port Clarence to Cape Prince of Wales (p. 868-79), with topographical descriptions, observations on weather, ice conditions, driftwood, dog food, etc., being especially rich in observations on the customs, manners, habitations, appearance, hospitality, etc. of the natives; journal of Gilpin on the same journey follows (p. 879-81).

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25. Maps (37), most from the Admi-

ralty Hydrographic Office:

Discoveries by the squadrons under the orders of Captains Belcher, the Assistance, Kellett, Resolute, Collinson, Enterprise, and M'Clure, Investigator up to 1854 (fold. frontispiece).

Track of the Phoenix around Disko Is-

land, West Greenland (p. 5).

North extremity of Spit Island, with islet, west of Grinnell Peninsula, northwest Devon Island (p. 125).

Sector of Grinnell Peninsula coast, northwest Devon Island, between Barrow Bay and Cape Majendie, by J. P. Chevne

(at p. 152).

Coast line searched by the Western Division of sledges from Northumberland Sound under Cmdr. Richards, and sledge track of Sherard Osborn (fold. map at p. 188).

"References, discoveries and explorations, 1852": discoveries of Belcher, Kellett and M'Clure, with lists of supplies in man-days at Dealy Island, Fife Point and Mercy Bay depots, as well as those aboard the Investigator (at p. 214).

West shores of Queens searched and explored by Sherard Osborn, June-July 1853 (fold. map at p. 214).

Eye sketch of the Hooker Islands,

Queens Channel (p. 239). Track chart of a boat party from Beechey Island to Cape Bowden commanded by W. B. Shellabear, Sept. 8-11, 1853 (at p. 289).

Wellington Channel with tracks of two traveling parties under Shellabear from Beechey Island: to Point Phillips on east Cornwallis, and to the Assistance in Baring Bay near Point Eden on west Devon (at p. 297).

Sketch map of Cape Lady Franklin on northeast Bathurst Island and islands to

the westward (on p. 454).

Sketch map of West Water Sound, west shore of Queens Channel off north-east Bathurst Island (p. 454).

Eye sketch of the west coast of Queens

Channel (p. 455).

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Eye sketch of the west coast of Queens Channel, east Bathurst Island (p. 456). Eye sketch of the southwest extremity

of Queens Channel (p. 457).

Route of the carts of the Intrepid across Melville Island, Sept. 15-Oct. 2, 1852, under M'Clintock (at p. 470).

Route of sledge trip, west Melville Island, by De Bray, Apr. 4-May 18, 1853

(fold. map at p. 478).

Track of sledge party of G. F. Mecham, Apr. 4-July 6, 1853, with sketch views of Capes Mecham and Cam on Prince Patrick Island, Eglinton Island near Cape Nares, and Melville Island south of Humphries Head (fold. map at p. 488).

Track of sledge trip, Melville Island, under Mecham, Sept. 22-Oct. 14, 1852

(fold. map at p. 490).

Coasts discovered by M'Clintock, with his track Apr. 4-July 18, 1853 (fold. map at p. 541).

Route of sledges, Oct. 7-25, 1852, under

M'Clintock (p. 588).

Track of sledge under G. S. Nares, Apr. 4–June 14, 1853, Melville Island (fold. map at p. 600).

Track and discoveries of Lt. R. V. Hamilton, northeast Melville Island (fold.

map at p. 616).

Track of Hamilton Sept. 22-Oct. 7, 1852, south coast of Melville Island (at p. 618).

Track of sledge from Dealy Island to Mercy Bay, 1853, led by B. C. T. Pim

(fold. map at p. 646).

Track of sledges under Dr. Wm. Domville, Mar. 10-Apr. 19, 1853, May 5-June 9, 1853, part of the searching operations from the *Resolute* (fold. map at p. 664).

Track of sledge under B. C. T. Pim from Dealy Island to Cape Fisher, May 9-June 9, 1853 (fold. map at p. 680).

Track of sledge journey, Apr. 3-June 12, 1854, of G. F. Mecham, from the Resolute off Cape Cockburn through Prince of Wales Strait to Ramsay Island, and return to Beechey Island (fold. map at p. 688).

Track of sledge from the Resolute Apr. 3-June 13, 1854, F. J. Krabbé commanding the party (fold. map at p. 706).

Coast of Wellington Channel, showing tracks of Pullen's journey to the Assist-

ance Oct. 1853 (at p. 745).

Coast of Wellington Channel showing route of Pullen's second journey to Cape Becher July-Aug. 1853. (fold. map at p. 768).

Erebus Bay, Barrow Strait, surveyed by Pullen, 1854, with astro fix and

soundings (fold. map at p. 794).

Coast line of parts of north Devon, Cornwallis and north Somerset Islands, showing route of Pullen with sledge party from the North Star in Erebus Bay across Wellington Channel, Barrow Strait, to Port Leopold, and return to the ship, Mar.-Apr. 1854; distance traveled: 190 miles (at p. 797).

Map of route of Dr. John Rae from the head of Repulse Bay to Castor and Pollux River; "during this journey he obtained conclusive information of the fate of a portion of Sir John Franklin's expedition, 1854. This is an exact tracing from Dr. Rae's ms. drawing . . . John Arrowsmith . . . 20 Dec. 1854." (fold. map at p. 830).

Map to accompany J. Simpson's observations on the western Eskimos, containing many native names (fold. map

at p. 916).

Chart to illustrate the narratives of Collinson and Rae (fold. map at p. 943).

Map showing in color: discoveries of J. C. Ross, H. T. Austin, R. M'Clure, Dr. John Rae and Wm. Penny; also shows winter quarters of expeditions from 1845 to 1853, and locations of depots (fold. map at p. 958).

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Navy estimates for the year 1855–56 (98 p.), pub. in House of Commons' Sessional papers . . . 1854–1855, v. 31, no. 52) records, p. 77, the allocation of £2,220 in 1854–55 to the Hudson's Bay Co. for supplies to the "Overland Arctic Searching Expedition in 1851 and 1852", probably Rae's journeys as in No. 45229, 45233; and a further £3,000 allocated in 1855–56 for the expenses of a Franklin Search Expedition.

#### 45246. GREAT BRITAIN.

Estimates &c., civil services for the year ending 31 March 1856. Ordered by the House of Commons to be printed, 27 March 1855. 46 p. (Great Britain.

Parliament. House of Commons. Sessional papers, Accounts and papers, 1854-55, v. 31, no. 140, section VII) Item 43, arctic discoverers, rewards; item 44, monument to Sir John Franklin. (p. 45): 1855-56 appropriation of £5,000 to M'Clure and £5,000 to his officers and and crew for accomplishing the discovery of the Northwest Passage; an appropriation of £800 for the erection of a monument to the memory of Franklin.

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# 45247. GREAT BRITAIN.

Arctic expeditions, Return to an order of the Honourable the House of Commons dated 29 March 1855, for: A return of the cost of the "Further papers relative to the recent arctic expeditions," presented to both Houses of Parliament by command of Her Majesty in January 1855; distinguishing under each head the expense of paper, printing, lithographing of charts and illustrations, and other expenses, and of the number of copies printed, and the distribution of the same. Her Majesty's Stationery Office, 13 April 1855. J. R. McCullough, Comptroller. Ordered by the House of Commons to be printed, 18 April 1855. 2 p. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1854-55, v. 44, no. 181) Costs of printing 2,000 copies of No. 45241, together with distribution list.

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#### 45248. GREAT BRITAIN.

Report of the Select Committee on Arctic Expedition; together with the proceedings of the Committee, minutes of evidence, and appendix. Ordered by the House of Commons to be printed, 20 July 1855. xx, 38 p. fold.map. (Great Britain. Parliament. House of Commons. Sessional papers, Reports from committees, 1854–55, v. 7, no. 409)

Contains list of members, report and proceedings of the committee (Mackinnon, chairman) appointed to recommend awards, if any, for Northwest Passage discovery, to be paid to M'Clure with the Investigator, Collinson (Enterprise) and Kellett with the Herald and Resolute (p. i-xix); with review of M'Clure's activities, 1850-54; and survey of acts of Parliament concerning rewards for accomplishment of a Northwest Passage. £5,000 award is recommended to M'Clure and £5,000 to the Investigator's officers and crew (p. vi, xv); Kellett's actions are commended and tribute is paid to Franklin. Arctic

Medal award is recommended to Royal Navy personnel, Hudson's Bay Company employees, crews of De Haven's ships, and those despatched by Lady Jane Franklin. Lady Franklin's letter claiming discovery of the Northwest Passage for her husband is included (p. xviii-xix, 35). Witnesses are listed (p. xx) and minutes of evidence given (p. 1-35), including that of Capt. Back (p. 1-7) on M'Clure's accomplishment of Northwest Passage, Collinson's voyage; Capt. H. Kellett (p. 4-10) on voyages of the Investigator and Enterprise, M'Clure aboard the Resolute, M'Clure's Northwest Passage; Capt. J. C. Ross (p. 7-8) on rewards for discovery of the Northwest Passage, M'Clure's voyage, voyages of the Investigator and Enterprise; Capt. John Washington, Admiralty hydrographer (p. 10-12) on Franklin's northwest passage; Capt. Robt. M'Clure (p. 13-18) his orders (1850) from Collinson, voyage of the Investigator, journey eastward to Beechey Island, Banks Island, steam power; Sir Roderick I. Murchison (p. 18-23) on the case for Franklin's northwest passage, tides at Victoria Strait, the Arctic Medal; Dr. W. T. Domville (p. 23-25): medical survey of the Investigator; Rear-Adm. W. A. B. Hamilton (p. 25-26) on Kellett's contributions to M'Clure's success: Capt. Richard Collinson (p. 27-32): resumé of his voyage in the Enterprise, separation from M'Clure, visit to Melville Island, Franklin relics found at Finlayson Islands, Collinson's northwest passage. Tabulation of arctic discoveries 1819-1854 is included (p. 33-34) showing officers and vessels by name, sailing date, wintering place, coasts discovered, and date of expedition's return. Map at end of regions from Chukotsk Peninsula eastward to Greenland shows: tracks of ships of Parry 1819-20, M'Clure in the Investigator 1850-54, Collinson in the Enterprise 1850-54, and Dr. John Rae 1854; with notes on the sea ice, and on the expeditions of M'Clure, Maguire (Plover 1852-53), and Collinson.

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#### 45249. GREAT BRITAIN.

Further papers relative to the recent arctic expeditions in search of Sir. J. Franklin, and the crews of . . . Erebus and Terror; including the reports of Dr. Kane and Messrs. Anderson and Stewart; and correspondence relative to the adjudication of £10,000 as a reward for ascertaining the fate of the crews of . .

Erebus and Terror. In continuation of papers presented in September 1854–5. Presented to the House of Commons, 1856. London, Harrison and Sons. vi, 95 p. 2 maps, 1 fold. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1856, v. 41, no. 2124).

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Contains correspondence on: the Second Grinnell Expedition to Smith Sound and Kane Basin, with Kane's report of proceedings (p. 1-18); also on the Hudson's Bay Company's expedition under Anderson and Stewart down the Back River Anderson's report (p. 19-29); King's proposal to proceed down the Back River to Montreal Island (p. 31-34); recovery and disposal of the Resolute (p. 35-43); report on Franklin relics collected by Collinson (p. 45); correspondence on the Franklin Search reward (p. 46-91); lists of U. S. officers and men entitled to receive the Arctic Medal (p. 92-95).

 Eastern Arctic: Proceedings (p. 7-17) of the second expedition in search of Franklin, sponsored by Henry Grinnell and led by Lt. Elisha K. Kane, with the Advance; voyage from New York, May 1853 to Melville Bay, Smith Sound, and winter quarters on the Greenland coast of Kane Basin, with description of the coast, sledge journey north to Peabody Bay to lay depots, arrangements and routine aboard ship (p. 7-9); effects of low temperatures on various liquids (p. 10); minimum temperature -70° F.; death of dogs through disease; spring journeys around Peabody Bay, geological observations along the Smith Sound coast of Greenland, journey north into Kennedy Channel (p. 11-12); attempt to communicate by whaleboat with Belcher's supply base at Beechey Island (a failure), second, 1854-55, winter on short rations, outbreak of scurvy, abandonment of the Advance and retreat southward in whaleboats, with description of equipment taken (p. 13-15). The natural history collection was abandoned at Anoatok (p. 15); Kane's party reached Upernavik 83 days later, and met Hartstein (USN) off Disko. Further details and correspondence concerning Kane's return to the United States are given (p. 1-6, 17-18), also (at end of vol.) map showing his discoveries.

2. Hudson's Bay Co. expedition down the Back River under Chief Factor James Anderson and Stewart in 1855, with general correspondence (p. 19-25), and report by Anderson, including encounter with Eskimos near Garry Lake in possession of daggers, beads, files and kettles, other natives at Lake Franklin with further tools, utensils, instruments, etc., and find of many relics on Montreal Island (p. 26–27); observations on fish and animals (p. 28–29);

and animals (p. 28–29);
3. Proposal of Dr. Richard King to proceed down the Back River (p. 31–34).

4. Recovery of the Resolute (abandoned May 15, 1854, off Cape Cockburn) by whaling Capt. James M. Buddington in Davis Strait, Sept. 10, 1855, who sailed her to New London, Conn. (p. 35-43), including account published in New York Herald on Dec. 27, 1855 (p. 36-38); rights of British Government waived (p. 38-43). Report on fragments of doors and iron collected by Capt. Collinson as from Franklin's vessels.

5. £10,000 reward for discovering the fate of Franklin: offer in the London Gazette, Dr. John Rae recommended, Lady Franklin's protest against Rae and proposal that search be resumed (p. 46-63); views of Kane (p. 64), correspondence relating to claims of Rae (p. 47-64) and others: John Garland (p. 66-68), Capt. Wm. Penny, as advanced by John Roy (p. 68-69).

6. Bedford Pim claim (p. 69-73), with proposal for further search and list of sledge party equipment (p. 73-74), also (p. 75-78) Pim's journal, Mar. 10-April 29, 1850, of his journey from the Herald at Kotzebue Sound to the Russian post Michaelowski in Norton Sound; claims of Dr. Robt. M'Cormick (p. 79-87); Richard King (p. 82-85); A. K. Isbister (p. 86); Capt. E. Ommanney (p. 86-87). Award granted to Rae and his companions (p. 88-91). List (p. 92-95) of American officers and men of De Haven, Hartstein and Kane's expeditions, to receive the Arctic Medal.

Maps (two) comprise: a rough sketch map (at p. 72) traced from an original drawing of a Wainwright Inlet Eskimo, depicting a river east of Point Barrow and indicating the burial place of some white men, reported by the natives to have been killed there; and (at end of vol.) map of the Smith Sound, Kane Basin, Kennedy Channel regions, showing discoveries of the Second Grinnell Expedition, 1853–1855, under Kane.

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## 45250. GREAT BRITAIN.

Correspondence respecting HMS. Resolute, and the arctic expedition. Pre-

sented to the House of Commons by command of Her Majesty, in pursuance of their address dated May 21, 1858. London, printed by Harrison and sons. ii, 40 p. map. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1857–58,

v. 60, no. 2416)

Contains brief letters and a newspaper account of the recovery of the Resolute. The vessel, abandoned by Capt. H. Kellett off Cape Cockburn, southwest Bathurst Island, in May 1854, was discovered drifting in Davis Strait off Cape Mercy in Sept. 1855, by Capt. James M. Buddington; he sailed her south to New London, where she anchored Dec. 23 (p. 1-10). Claims to the Resolute are relinquished by the British Government in favor of Buddington (a whaling captain), his associates and crew (p. 10-15, 20-21). The vessel is acquired by the U. S. Government, and presented to the British Government in a restored condition (p. 21-24, 26-34). Included is correspondence from Lady Jane Franklin protesting award of £10,000 to Dr. John Rae for ascertaining fate of the Franklin expedition, and appealing that further search vessels be despatched (p. 15-20, 24-26, 34-38). Sea and land expeditions 1818-1855, to whose members the Arctic Medal has been awarded, are listed (p. 38-39).

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#### 45251. GREAT BRITAIN.

Arctic expedition. Papers and correspondence relating to the equipment and fitting out of the arctic expedition of 1875, including report of the Admiralty Arctic Committee. Presented to both Houses of Parliament by command of Her Majesty. London, Eyre and Spottiswoode, 1875.

40 p. fold. col. map. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers,

1875, v. 45, no. C-1153)

Contains hydrographer's report (p. 1-17), including planning of expedition (to be headed by Capt. G. S. Nares), estimated cost, scientific program; recommendations of the Arctic Committee (p. 18-23) on vessels, route, objective (North Pole), logistics, etc. Data on dogs required, ice-masters, naturalists, boat provisions and equipment, and depots are given (p. 23-34). Specifications of HMS. Discovery, and complements of the Alert and Discovery (p. 36-

40) are included. Chart to accompany these documents is listed as No. 45252. \*\*Copy seen: DLC

## 45252. GREAT BRITAIN.

Chart to accompany Papers and correspondence relating to the equipment and fitting out of the arctic expedition of 1875. Presented to both Houses of Parliament by command of Her Majesty, London, Eyre and Spottiswoode, 1875. 2 p., col. fold. map. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1875 v. 45, no. C-1153-I)

Polar projection map of regions north of approx. 55° N., colored to show the seas first navigated by British expeditions, coasts discovered by British explorers prior to 1800, and during 1818–1859; also coasts explored by Americans, Germans, Swedes and Austrains 1855–

1874.

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#### 45253. GREAT BRITAIN.

Arctic expedition. Supplementary estimate of Her Majesty's Navy for the year 1874-75: an estimate of the sum required to defray the charges on account of the arctic expedition which shall come in course of payment in the year ending the 31st March 1875. Presented to Parlia-Her Majesty's command. ment by Ordered by the House of Commons to be printed, 15 February, 1875. 4 p. (Great Parliament. House of Com-Sessional papers, Accounts and mons. papers, 1875, v. 45, no. 44)

States sums appropriated for wages, stores, victuals, clothing, machinery, medical stores, instruments, etc., for Nares' expedition, together with estimates covering wages to seamen and marines in 1876–77 and succeeding years.

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## 45254. GREAT BRITAIN.

Arctic expedition. Further papers and correspondence of Parliamentary Paper C.—1153. of 1875. Presented to both Houses of Parliament by command of Her Majesty. Admiralty, July 1876. London, Eyre and Spottiswoode, 1876. 25 p. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1876, v. 45, no. C.—1560)

Contains Admiralty orders, May 1875, to Capt. G. S. Nares, and Nares' to sub-ordinates (p. 3-11); his report of progress to Disko, and to Upernavik, also medical

report (p. 12-15); Capt. L. F. Jones' report of the auxiliary, HMS. Valourous' voyage to Disko and return May-Aug. 1875 (p. 16-21); and Capt. Allen Young's reports of summer 1875 voyage of the yacht Pandora to Smith Sound and return with despatches from Nares.

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### 45255. GREAT BRITAIN.

Arctic expedition, 1875–6. Journals and proceedings of the arctic expedition 1875–6, under the command of Captain Sir George S. Nares; in continuation of Parliamentary papers, C-1153 of 1875, and C-1560 of 1876. Presented to both Houses of Parliament by command of Her Majesty, 1877. London, Harrison & Sons. vii, 484 p. illus., plates incl. fold. maps. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1877, v. 56, no. C-1638)

Contains reports of an expedition attempting to reach the North Pole by Smith Sound—Robeson Channel, and exploring adjacent coasts: HMS. (Capt. G. S. Nares) wintered at Floeberg Beach, near Cape Sheridan on northeast Ellesmere Island, with sledge parties traveling westward along the north coast, eastward to Greenland, north towards the North Pole, in addition to numerous local journeys; HMS. Discovery (Capt. H. F. Stephenson) wintered at Discovery Harbour in Lady Franklin Bay, with sledge journeys eastward to Greenland and along its north coast to Sherard Osborn Fiord, southwestward on Ellesmere to the head of Archer Fiord, westward into The Bellows, besides local journeys. After the wintering (first of two planned), the expedition returned to England because of ravages of scurvy. Reports of each ship, its sledge parties, the doctors, report on provisions and stores, also records of Capt. C. F. Hall, and account of the 1876 voyage of the Pandora are included and described in turn infra. Scientific results from the vessels en route and in winter quarters were published separately (No. 45257). Sledge parties' observations of weather, snow, ice, trail conditions, position, atmospheric phenomena, health of men, etc. are included in their reports infra, and some of the information is presented also, in different form (evidence), in No. 45256.

1. The Alert (Floeberg Beach, about two miles south-southeast of Cape Sher-

idan (82°26' N. 61°30' W.) on the northeast coast of Ellesmere Island); Nares' report of proceedings (p. 1-44); account of the voyage to Baffin Bay, Smith Sound (p. 4-8), Kane Basin (p. 8-10), Kennedy Channel to Lady Franklin Bay (p. 10-11), where the Discovery established winter quarters; the Alert continued north through Robeson Channel (p. 11-13) to winter quarters at Floeberg Beach (p. 13-16); winter activities (p. 16-20), including scientific observations, game list, and spring sledging program (p. 21); communication established with the Discovery (p. 20-22), and route located to Greenland across Robeson Channel (p. 22-23); outbreak of scurvy (p. 23); Beaumont's sledge expedition eastward along north coast of Greenland to Sherard Osborn Fiord (p. 23, 28); Fulford's and Coppinger's examination of Petermann Fiord (p. 24, 28-29); Markham's abortive attempt to reach the North Pole (p. 24-26); Aldrich's journey westward along the north coast Ellesmere Island to Yelverton Bay (p. 26-27); journey across Robeson Channel to Polaris Bay (p. 24, 28-29); decision to terminate expedition, reunion with the Discovery, voyage south along the east coast of Ellesmere, and return to England (p. 30-38).

2. North coast Ellesmere Island: sledge expedition by Lt. Pelham Aldrich westward from the Alert, along the north coast of Ellesmere to Yelverton Bay (p. 167-231), including Aldrich's report stressing deteriorating health of crew (p. 168-72); track chart (fold.) facing p. 172; report on clothing (p. 173-75); tabulated weights of sledge equipment and provisions, ration scale, sledging times and distances (p. 176-77); sledge journal (p. 178-231) with 18 sketches of features along the north coast and fold. sketch (at p. 197) of ice cliff, Cape Columbia. Relief expedition under Lt. Wm. H. May, westward to Depot Point, with tabulated weights of equipment and provisions (p. 316-20).

3. Sledge journey towards North Pole: under command of Cmdr. A. H. Markham, with support sledges (p. 118-57), proceeding along the coast northwest to Cape Joseph Henry and north over the ice of the Lincoln Sea to latitude 83°20' N. (about 30 miles offshore); tabulated weights of equipment and provisions (p. 120-23); Markham's report and sledge journal (p. 123-57) with track chart facing p. 126. Report of support sledge commanded by Dr. Edward L. Moss (p. 157-64), who accompanied Markham on

the start of his outward journey, including sledge journal (p. 160-64) to Cape Joseph Henry; fold. sketch view facing p. 163. Relief expedition under command of Lt. W. H. May (p. 313-15), west to Depot Point, including tabulated weights of equipment and provisions.

4. Eastward journeys to Greenland: sledge trips across Robeson Channel by Sub-Lt. Geo. Le C. Egerton to Repulse Harbour and return (p. 279–86), by Lt. W. H. May (p. 303–307, with 2 sheets of fold, sketch profiles inserted) and by Lt. Wyatt Rawson (p. 275-78); each, also Rawson and Egerton infra, includes tabulation of sledge equipment and pro-Rawson's journey eastward across Robeson Channel in company with Beaumont to Repulse Harbour and Cape Stanton, returning southwestward along the Greenland coast to Thank God Harbour in Polaris Bay, advancing later to meet Beaumont in Newman Bay (p. 404-418); he joined the Alert off Cape Beechey on Aug. 3, 1876; journey to mid-Robeson Channel by Egerton (p. 292-96) to take serial temperature observations, and to measure currents at different depths, and different phases of the tide.

5. Local journeys from Floeberg Beach: northwestwards: to Dumbell Bay, by Sub-Lt. G. LeC. Egerton (p. 296-99); to Depot Point, by Lt. W. H. May, with tabulated weights of sledge equipment and provisions (p. 307-313); to Cape Joseph Henry, by Lt. Pelham Aldrich (p. 64-78) with track chart at p. 78; to Cape Joseph Henry, by Cmdr. A. H. Markham (p. 78-88), with tabulated meteorological data, increase in weights of sledge equipment, and track chart at p. 88; to Cape Colan, by Lt. George A. Giffard (p. 257-59); and to Giffard Peak, by Giffard (p. 231-56), with his report, track chart (at p. 232) and sledge journal. Southeastwards: to Cape Union, by Lt. Wyatt Rawson (p. 63-64, 89-93) including meteorological data and track chart; to Lincoln Bay, by Lt. Wm. H. May (p. 300-303) with fold, sheet of sketch profiles; and to Discovery Bay, by Lt. G. LeC. Egerton (p. 104-116), including lists of clothing and equipment, ration scale, medicines, sketch of floeberg, and track chart facing p. 116. Southwards: inland sledge journey by Egerton, towards the United States Range of mountains, including 3 full-page sketches and 2 fold. sketches of topographic features seen, and tabulated weights of sledge equipment and provisions (p. 286-92).

6. The Discovery (Discovery Harbour (81°42′ N. 65°20′ W.) Lady Franklin Bay, on northeast coast of Ellesmere Island): Report of proceedings (p. 44-58) by Capt. H. F. Stephenson, including establishment of the Discovery's winter quarters, local surveys, scientific activities, spring sledging expeditions to Archer Fiord, The Bellows, and eastward to Greenland; outbreak of scurvy, game lists, coal seams, fish, etc.

7. Eastward journeys to Greenland: Journey by way of Floeberg Beach. across Robeson Channel, along the north coast of Greenland (Nyboes Land) eastward to St. George and Sherard Osborn Fiords, returning to cross Newman Bay, Hall Land, Polaris Bay, and Kennedy Channel, by Lt. Lewis A. Beaumont, Apr.-Aug. 1876 (p. 338-404). including fold. track chart at p. 358, abstract of proceedings (p. 341-58), tabulated weights of sledge equipment and provisions (p. 359, 363-64), sledge journal (p. 358-94), abstract of times and distances, angles and bearings, astronomic observations, latitudes and longitudes (p. 394-400), and progress report from Polaris Bay (p. 401-404). Journey by Dr. R. W. Coppinger, accompanying Beaumont to north Greenland (by way of Floeberg Beach) as far as Cape Stanton, thence returning southwestwards to Newman and Polaris Bays. and Petermann Fiord (p. 418-31), with 3 fold, sheets of profiles and sledge journal (p. 424-31). Coppinger's report on Petermann Fiord, May-June 1876 (p. 444-46) has 2 fold. profiles of the shores inserted, also fold. map of the Fiord. Journey by Lt. R. B. Fulford eastward to Polaris Bay, following which he accompanied Coppinger into Petermann Fiord: report, sledge journal, and angles (p. 432-43). Journeys across Robeson Channel to Polaris Bay by Archer (p. 320-22), and Convbeare (p. 452-55).

8. Archer Fiord: Journey to the head of Archer Fiord, 81°25′ N. 67° W. (p. 322-38), Lt. Robt. H. Archer's report, sledge journal, sketch of parhelion (p. 328), track chart (at p. 336), sledging abstract, astronomic observations, latitudes and longitudes.

The Bellows: Examination of this valley extending north for 15 miles from Discovery Harbour, by Sub-Lt. Crawford Conybeare (p. 97-100, with fold. sketch at p. 99), and by Archer (p. 94-97).

Local journeys around Discovery Bay: Journeys by Conybeare around Lady Franklin Bay (p. 448-51), and to Floeberg Beach along the east coast (p. 455-58). Abortive efforts to travel overland to Robeson Channel by Lt. Reginald B. Fulford (p. 100-102, with track chart facing p. 100).

9. Voyage of the Pandora, commanded by Capt. Allen Young, to Baffin Bay and Smith Sound in 1876, depositing mail for Nares at Cape Isabella, progress reports (p. 468-79), with track chart

facing p. 478.

10. Medical reports: Letter to the Director General of Medical Dept. by Dr. Thomas Colan (p. 458-63) being a narrative of the expedition's proceedings north to Floeberg Beach, with atmospheric temperature data (p. 460), sledge expeditions (p. 461), remarks on scurvy (p. 462), return voyage. Another letter to the Director General by Dr. Belgrave Ninnis (p. 464-65), with temperature data, ice thickness tabulation, and comments on scurvy. Report of condition of the northern sledge party (p. 164-66) by Dr. Edward L. Moss, with detailed description of men debilitated by advanced scurvy, starvation and exhaustion.

Clothing, equipment and provisions: Detailed report by Nares on the quality of provisions and stores supplied to his

expedition (p. 480-84).

Capt. C. F. Hall: Records found by Dr. R. W. Coppinger on Newman Bay, northwest Greenland, written by Hall in 1871 (p. 61-62, see also p. 54, 57, 321).

11. Maps (17) of: Davis Strait and Baffin Bay, showing the tracks of the Alert and Discovery (fold. map at p. 38).

Smith Sound, Kennedy and Robeson Channels, adjacent coasts, etc., showing the outward and homeward tracks of the ships, in addition to the sledge tracks of Aldrich, Markham and Beaumont (fold. map at p. 38).

Discovery Harbour, showing the winter quarters of the Discovery, by R. H.

Archer (fold. map at p. 62).

Track of sledge journey by Aldrich shows north Ellesmere coast from Black Cliffs Bay to Cape Joseph Henry, scale 2 mi: 1 in. (fold. map at p. 78).

Track of sledge parties under Markham, showing Ellesmere coast between Floeberg Beach and Cape Joseph Henry, scale 2 mi: 1 in. (fold. map at p. 88).

Ellesmere coast from Floeberg Beach southeast to Cape Union (facing p. 92). The Bellows, valley west of Discovery

Harbour, scale 2 mi.: 1 in. with track of Archer's journey (at p. 96).

Attempted sledge journey from Discovery Harbour overland towards Robeson Channel (at p. 100).

Egerton's journey along the Ellesmere coast from Floeberg Beach to Discovery Harbour (fold, map at p. 116).

Tracks on the sea ice northward to 83°20′ N. and return, made by party under Markham, from Floeberg Beach by way of Cape Joseph Henry (fold. map at p. 126).

Aldrich's journey along the north coast of Grant Land westward from Floeberg Beach to Yelverton Bay, scale 8 mi.: 1 in.

(fold, map at p. 172).

Giffard's journey westward from Floeberg Beach to Giffard Peak (at p. 232). Area southwest of the head of Ella Bay:

steep cliffs backed by hills (p. 332).

Archer's journey to the head of Archer

Fiord (fold. map at p. 336).

Beaumont's journey from Discovery Harbour to Floeberg Beach, across Robeson Channel and along the north Greenland coast to Sherard Osborn Fiord, returning to Discovery Harbour by way of Newman and Polaris Bays, scale 8 mi.: 1 in. (fold. map at p. 358).

Petermann Fiord, by Fulford (fold.

plan at p. 446).

Track of the *Pandora* from England to West Greenland (fold. map at p. 478).

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### 45256. GREAT BRITAIN.

Report of the Committee appointed by the Lords Commissioners of the Admiralty to enquire into the causes of the outbreak of scurvy in the recent arctic expedition; the adequacy of the . . . food, medicine, and medical comforts; and the propriety of the orders for provisioning the sledge parties. Presented to both Houses of Parliament by command of Her Majesty, 1877. London, Harrison & Sons. lv, 505 p. diagrs., fold. plate. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1877, v. 56, no. C-1722). This report was transmitted to the House of Commons as return to its order of June 7, 1877, and the transmittal letter (2 p.) pub. as no. 246 in the same vol. of Sessional papers.

Results of investigation of scurvy among personnel of spring (1876) sledging parties on the British Arctic Expedition, in the Alert and Discovery, headed by Sin George S. Nares, with purpose to attempt the North Pole via the Smith Sound-

Robeson Channel route. The enterprise was abandoned at the end of the first year (two projected) due to debilitation of crews. Report of the five-man committee presents summary of conclusions. and (p. v-xxix) Paper on scurvy by its medical members, Dr. Donnet and Fraser. They discuss symptoms, pathology, and causes of scurvy, its prevention, treatment, etc., as well as conditions on the Alert and Discovery and during the sledging operations, which led to widespread scurvy. Provisions, clothing, medicines, medical utensils and stores supplied to and brought back by the expedition are listed (p. xxxi-li) with chemical analyses

of various provisions returned. The outbreak of scurvy among sledging personnel is considered to have been primarily due to the absence of lime juice from the trail diet. Lack of sunshine during the preceding winter, damp quarters, extreme changes in temperature, and lack of fresh meat acted as contributing factors; weight of the (manhauled) sledges hastened the onset. major part of the report (p. 1-316) comprises the minutes of hearings Jan. 10-Feb. 28, 1877, in which Capt. Nares, the principal officers and some of the junior officers and men gave evidence on conditions during the expedition; and in which participants of earlier expeditions-notably Sir F. L. M'Clintock, Vice-Adm. E. Ommanney, Rear-Adm. W. J. S. Pullen, Dr. John Rae—also the Medical Director General of the Navy presented their opinions. Appended (p. 317-410) are 34 supporting documents submitted by witnesses: orders, rations, health reports, data on shipboard conditions (including air analyses), temperature, light (fold. diagr.), sledge parties, performance in relation to diet, etc. nesses (48) are listed with a précis of the evidence of each (p. 415-55); and a detailed index is added (p. 457-505). This index, unique in the Parliamentary papers on arctic expeditions, is a guide to information presented on expeditionary organization and procedures, personnel selection, logistics, supplies and equipment particularly in relation to hygiene and performance of personnel; on features of the arctic environment, darkness, ice, snow, weather, game, plants, etc.; on rations, specific items of diet, various diseases including frostbite, snowblindness, etc. On medicine generally and sledging operations, the experience of the principal Franklin search expeditions,

vessels and participants (as well as Nares' expedition) is represented and specifically indexed.

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## 45257. GREAT BRITAIN.

Arctic expedition. Results derived from the Arctic Expedition, 1875–76: I, physical observations by Captain Sir George Nares, and Captain Feilden, &c.; II, medical report on the Eskimo dog disease, by Fleet Surgeon B. Ninnis. Presented to both Houses of Parliament by command of Her Majesty. London, Eyre and Spottiswoode, 1878. 156 p., 8 col. plates, 7 graphs. (Great Britain. Parliament. House of Commons. Sessional papers, Accounts and papers, 1878. v. 52, no. C-2176)

Meteorology, hydrography, soil temperatures, atmospheric phenomena, solar radiation, aurora, terrestrial magnetism, are reported in tabulated data, and excerpts from journals. Observations reported were made aboard the Alert and Discovery moving through Smith Sound, Kennedy Channel, Hall Basin, and (Alert only) Robeson Channel; and at their winter quarters on northeast Ellesmere. Both vessels traveled the western side of these waters, north- and southbound, except on the in-voyage they made traverses across Kennedy Channel. The vessels entered Smith Sound (78°25' N. 74° W.) July 29, 1875; reached Discovery Harbour (81°42′ N. 65°20′ W.), the Discovery's winter quarters, Aug. 25th; the Alert proceeded north, Aug. 28th, to winter at Floeberg Beach (82°27′ N. 61°22′ W.). Some observations reported were made in Davis Strait and Baffin Bay (59°36' N. and northward), and a few on the ice of Lincoln Sea, Markham's sledge trip to 83°20'26" N. Observations made on sledge trips from the winter bases are included in the sledgers' reports in No. 45255 supra. A report on the sledge dogs, and list of scientific papers published from Nares' expedition are appended to results from the Alert and Discovery.

Meteorology: tabulated yearly abstract Aug. 1875—Aug. 1876 of maximum, minimum and mean monthly temperatures, barometer readings, wind direction, duration and force, cloud cover, fog, precipitation, and hours in which mercury remained frozen, as observed by the Alert and by the Discovery (p. 32). Monthly abstract of the same daily observations, Aug. 1, 1875—Aug. 31, 1876, from the

Discovery en route north of 80° N. and at Discovery Harbour (p. 15-27) is followed (p. 34-46) by a similar abstract for the Alert en route and at Floeberg Beach. Abstract of daily mean temperature 1875-1876 at Floeberg Beach and Discovery Harbour and mean hourly range of temperature (p. 28-29) and daily temperature observations from the Discovery (p. 75-78), and from the Alert (p. 65-74) are given. Lower deck temperatures aboard the Alert Oct. 1875-May 1876, being maximum, minimum and mean monthly temperatures in the wardroom, mainmast, stokehold, and at three levels in the lower deck are also tabulated (p. 33). Remarks on the weather every few days are given (p. 97-106) correlating experience aboard the Alert and Discovery July 28, 1875-Sept. 1, 1876, from Smith Sound to, and in, winter quarters. The station at Discovery Harbour is noted as protected from all but southeast or west winds, and that at Floeberg Beach protected on the SSE through SW to NNW. On atmospheric pressure, abstracts are (p. 30-31) of daily mean Aug. 1, 1875-Aug. 31, 1876, and mean hourly range at Floeberg Beach and Discovery Harbour Sept. 1, 1875-Aug. 31, 1876; six-times daily observations Aug. 1, 1875-Aug. 31, 1876, as made aboard the Discovery (p. 47-50), and the Alert (p. 50-59) en route and in winter quarters are tabulated, the Alert's observations at Floeberg Beach increased to hourly Nov. 1875-Mar. 1876. Corrections for the meteorological instruments, and remarks on the observations, methods, etc., are added (p. 61-65); also (p. 107-108) on the freezing and thawing of mercury in thermometers.

Atmospheric phenomena: Astronomical and atmospheric phenomena observed from the Alert and Discovery, Sept. 1875-May 1876 are chronicled (p. 108-112) including references to mock suns, halos, pillars, etc., meteors, prismatic colors, lunar phenomena, refraction, magnetic disturbances, etc. Solar radiation observations are tabulated as made aboard the Discovery from Ritenbenk 69°45' N. north to Discovery Harbour July 17-Oct. 11, 1875 and Mar. 23-July 31, 1876 (p. 4-9) and the Alert (p. 10-14) at Floeberg Beach Sept. 26-Oct. 6, 1875 and Mar. 11-July 28, 1876. Auroras observed at both the winter bases are discussed and registered chronologically with descriptive notes by Lt. A. C. Parr (p. 113-19, 128-29) and seven colored lithographs from drawings by C. Conybeare, and P. Aldrich are included at p. 118. A report on atmospheric electricity briefly observed, July 9-Nov. 22, is also made by Parr (p. 146).

Magnetic observations: Results of magnetic observations by four expedition officers at winter quarters of the two vessels were worked out by E. W. Creak, Admiralty Hydrographic Dept. (p. 119-45). Instruments and their housing (including snow house) are described. Mean values of declination, inclination, unifilar horizontal force, and total force are presented and discussed for Floeberg Beach (82°27'02" N. 61°22' W.) and Discovery Harbour (81°44' N. 65°03'44" W.) observatories. Disturbed days are noted and disturbances analyzed. Appended are tabulations of observations at both stations and seven charts on which the results are plotted.

Hydrography: thickness of salt-water ice frozen during one season, at Floeberg Beach and Discovery Harbour, is correlated (p. 3-4) with that in six other localities in Greenland and Canadian waters. Floeberg Beach, a sheltered station was in good agreement with other records; but Discovery Harbour and Robeson Channel ice was less thick due to tidal currents. Temperature and specific gravity of the sea surface are reported from Kap Farvel northward in Davis Strait, Baffin Bay, Smith Sound, Kane Basin with tabular data (p. 78-84); observations on the specific gravity of the sea water by Buchanan's (Challenger) method, and chlorine estimations by Dr. E. L. Moss are tabulated (p. 85–87) from 58°39' N. to 82°27' N. Surface and deep-sea (to 275 fathoms) temperature observations at 28 stations mostly off east Ellesmere in Smith Sound (79°-79°50′ N.) but extending from 59°36′ N. to 83°20'26" N. are presented (p. 88-96) and data tabulated.

Soil temperature: observations at Floeberg Beach and Discovery Harbour (p.

Dog disease: Eskimo dog disease, its symptoms, treatment and pathology, by Belgrave Ninnis (p. 147-54) is based on author's (medical doctor) observation of 25 dogs taken aboard the Discovery at Ritenbenk, West Greenland. habits, onset and course of disease, post mortem examinations (16 cases) are described in turn. The disease is distinguished from rabies, and reported as characterized by ulcerations of the intestines of undetermined cause.

List (p. 155-56) of 36 papers published in connection with the natural history results of the expedition. Most of these papers, and others not listed, have been abstracted in earlier volumes of Arctic Bibliography, the remainder to be so in v. 9; all appear in Arctic Bibliography indexes under Expeditions: British Arctic Expedition, 1875–1876.

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END OF BRITISH PARLIAMENTARY PAPERS

45258. GREAT BRITAIN. AIR MINISTRY. Aircraft operation under cold weather conditions, volume 1, 2nd edition, preliminary issue, Sept. 1940. London, reprinted June 1941 with amendment lists nos. 1 and 2, incorporated. iv, 24 p. illus., diagrs., tables. (*Its:* Air publication 1441.)

In two chapters: the first dealing with the maintenance and operation of the engine, and the second with that of the airplane as a whole. Particular emphasis is placed on care of the cooling system. Cold-engine starting techniques are outlined, and the amount of priming required for different type engines is tabulated. Protection of the airplane from snow and ice, and general maintenance of the electrical and mechanical systems in cold climates are discussed.

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45259. GREAT BRITAIN. HYDRO-GRAPHIC DEPT. Bering Sea and Strait pilot, comprising the north-western and northern coasts of Alaska from Cape Douglas to Demarcation Point, the northern coast of Canada from Demarcation Point to Cape Bathurst, the Aleutian Islands, and the north-eastern coast of Siberia from Mys Shipunsky to Mys Otto Shmidt. 3rd ed. London, Hydrographic Dept., Admiralty, 1954. liii, 634 p. approx. 175 illus., charts (1 fold.), diagrs., Prepared by F. M. Hodgson. Supplement no. 1, corrected to 15th June, 1956 (15 p.) prepared by H. V. Silk.

Basic work, superseding No. 6097 and supplements; with additions to glossary of Russian-English terms, and a Russian transliteration table; expanded section on ice terminology with photo-illus. of many terms; formation and movement of sea ice and ice navigation (p. 18-47); U. S. S. R. signals and buoyage system, also regulations for vessels under conduct of Russian ice-breakers (p. 55-70). Climate and weather are reviewed with tables of climatic data for 24 localities and charts of sea surface temperature (p. 73-110). The regional information is similar though usually more extensive than in the preceding edition, particularly for Afognak, Kodiak, Trinity, Aleutian, and Bering Sea islands.

Chapters on Afognak, Kodiak and Trinity Islands (p. 111-94); Alaska Peninsula, out-lying islands, southern coast of Unimak (p. 195-280); Aleutian Islands (p. 281-375); islands in Bering Sea, western coast of Alaska: Cape Saricheff to Cape Espenberg (p. 376-426); northwestern and northern coasts of Alaska, northern coast of Canada: Cape Espenberg to Cape Bathurst (p. 427-45); Ostrova Komandorskiye, eastern coast of Kamchatka and Siberia, Mys Shipunskiy to Mys Faddeya (p. 446-534); Anadyrskiy Zaliv, western shore of Bering Strait, Mys Chukotskiy to Mys Uelen (p. 535-88). Appended are U.S. inland rules of the road; ports available for underwater repairs, principal ports, with depths, etc.

Supplement includes corrections and additions to ice terminology, information on ice accumulation on ships during winter gales, and seven new and altered geographical names. *Copy seen:* DN-HO.

45260. GREAT BRITAIN. HYDRO-GRAPHIC DEPT. HMS. Vidal oceanographical log, Greenland Sea (Norway), Aug.-Sept. 1955. [London, 1956?] 2 v. (unpaged). fold. chart in each vol. Typescript. (H. O. no. H3111/55).

Contains data collected at 91 stations in the Greenland and Barents Seas, during two cruises by the British survey ship Vidal. Data from stations 1-50 off the northernmost Norwegian-Kola Peninsula coasts (approx. 67°-75° N. 15°-50° E.) are in v. 1; data from stations 51-91, off northwest Norway (approx. 65°-72° N. 1°-15° E.) in v. 2. For each station the following information is given: position (also shown on track chart), date and time, depth and nature of bottom, sea surface temperature and color, weather and sea conditions, age of moon, depths of sampling bottles, subsurface water temperature, salinity.

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45261. GREAT BRITAIN. HYDRO-GRAPHIC DEPT. Supplement no. 2, 1956, relating to the south and east coasts of Korea, east coast of Siberia and Sea of Okhotsk Pilot, fourth edition, 1952, corrected to 23rd April, 1956. London, Hydrographic Dept., Admiralty, 1956. 33 p. Prepared by H. V. Silk.

Contains additions, deletions, and alterations to No. 34994 of Arctic Bibliography, superseding Supp. no. 1 (1954). Includes all information affecting this pilot contained in Notices to mariners up to and including no. 1019 of 1956. Approx. 250 ice (and associated) terms and 96 new and altered geographical names are listed.

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45262. GREAT BRITAIN. HYDRO-GRAPHIC DEPT. Supplement no. 3, 1955, relating to the Arctic pilot, vol. II, fifth edition, 1949, corrected to 30th May, 1955. London, Hydrographic Dept., Admiralty, 1955. 41 p. 12 illus. Prepared by C. A. Bamford.

Contains deletions, additions and alterations to No. 6095 of Arctic Bibliography, superseding Supp. No. 2, 1953. Includes all information affecting this pilot contained in Notices to mariners up to and including no. 1329 of 1955; 87 ice (and

associated) terms and 36 new and altered geographical names are listed.

45263. GREAT BRITAIN. HYDRO-GRAPHIC DEPT. Supplement no. 5, 1956, relating to the White Sea pilot, first edition, 1946, corrected to 25th February, 1956. London, Hydrographic Dept., Admiralty, 1956. 91 p. Prepared by J. N. Tait.

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Contains additions, alterations, and deletions to No. 6103 of Arctic Bibliography, superseding Supp. no. 4 (1954). Includes all information affecting this pilot contained in Notices to mariners up to and including no. 498 of 1956; 120 new or altered geographical names are listed.

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45264. GREAT BRITAIN. MINISTRY OF AGRICULTURE, FISHERIES AND FOOD. FISHERIES LABORATORY, Lowestoft. Hydrographical observations made by the research vessel 'Ernest Holt' in 1949, 1950, 1953. [Lowestoft, 1956?.] 3 v.: 112, 150, 160 p. Mimeographed. 9 refs.

Contains tables of data collected on (altogether) 25 cruises during Jan.— Nov. 1949, Jan.—Nov. 1950, and Feb.— Dec. 1953, in eastern Greenland Sea, mainly in the Bjørnøya fisheries region north to about 77° N. Several hundred oceanographic stations were occupied, and for each are given date and time, geographical position, sonic depth, weather and sea conditions; data are presented on observed, interpolated and calculated values of temperature, salinity, density, dissolved oxygen and phosphates at various depths. Hydrographic equipment and procedure were described in No. 40111 of Arctic Bibliography.

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45265. GRECHISHKIN, D. K. Vlifanie iskusstvennof gipotermii na klinicheskoe techenie ėksperimental'nogo sepsisa. (Éksperimental'nafa khirurgifa, 1956. god 1, no. 3, p. 33–37, tables.) 16 refs. Text in Russian. Summary in English. Title tr.: The influence of artificial hypothermia upon the clinical course of experimental sepsis.

Account of observations on rabbits infected with Staphylococcus aureus. When made hypothermic shortly before infection, they presented a "forme fruste" of sepsis and their rate of survival was double that of controls. Cooling 24 hrs. after infection had no significant effect on survival and course of infection and repeated cooling produced similar results.

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45266. GREELEY, ARTHUR W. Forest management problems which the year 1953 has brought to the national forests of Alaska. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 91.)

In Southeast Alaska, the lumber industry had been based on spruce till 1953, when a market developed for hemlock, which represents 75 percent of the timber stands. Resulting problems are cited.

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45267. GREEN, L. H., and K. C. Mc-TAGGART. Structural studies in the Mayo District, Yukon Territory. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1701–1702.)

Abstract of paper submitted for Society meeting in Minneapolis, Oct. 31–Nov. 2, 1956. Mapping of a large-scale recumbent fold involving Precambrian (?) slate and quartzite in the Davidson Mts. (64°05′ N. 135°10′ W.) supports hypothesis that the more complex structures of Keno and Galena Hills to the south include attenuated recumbent folds sepa-

rated by thrust zones. Trends of fold axes and other structural features are noted.

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**45268. GREEN, PAUL L.** Radio communications with ice island. (*In:* Alaskan Science Conference . . . 1952. Pro-

ceedings, pub. 1954, p. 218.)

Operations were successful with a 75-watt transmitter, which was later replaced by one with a tuning range from 2–18 mc and an output of 400 volts. On all frequencies used, more stations were heard than contacted. Stations above a parallel running through Fairbanks around the world were much more easily heard and contacted than those south of this parallel. The system of antennas used is described. Daily voice contacts were made with amateur radio operators in Alaska using the 14 mc. band or on the MARS frequency 14405 kc.

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GREENAWAY, KEITH ROGERS, 1916– , see U. S. Office of Naval Operations. Canadian North. 1956. No. 48635.

**45269.** GREENBERG, MILTON, and A. M. GERLACH. Air Force in the International Geophysical Year. (Air University quarterly review, Spring 1956. v. 8, no. 4, p. 70–84).

A brief summary is given of each of the scientific areas of this third international scientific year, and related participation by the U.S. Air Force is emphasized. The arctic regions have been designated as a geographic area of special effort during the IGY. The U.S. Army will operate a rocket-launching facility at Fort Churchill. Related scientific facilities and accommodations for about a hundred scientists will also be provided. Approximately 100 rocket flights will be made from this site with several U.S. agencies participating. The geomagnetism program will be emphasized in and near the auroral zone in Alaska. Spectrographs, visual observations, and radio astonomy will be employed for aurora and airglow studies at Thule. An extensive flight program over the Arctic with ionosphere recorders is planned. The cosmic-ray program will include, among other countries, Canada, Alaska, and Greenland. Copy seen: DLC.

GREENBLATT, MILTON, see Plutchik, R., and M. Greenblatt. Temperature changes . . . skin . . . 1956. No. 47375.

45270. GREENE, CHARLES TULL, 1879— . Synopsis of the North American flies of the genus Scellus. (U. S. National Museum. Proceedings, Sept. 9, 1924. v. 65, art. 16, no. 2529, p. 1–18, 3 plates.) 9 refs.

Contains a historical outline of this genus, a key to the males and description of eight species. S. spinimanus, S. filiferus and S. avidus, all native to Fort Resolution, Mackenzie District, are included.

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**45271. GREENE, EDWARD LEE, 1843–1915.** A decade of new Pomaceae. (Pittonia, Jan.–Mar. 1900. v. 4, pt. 22, p. 127–31.)

Includes a description of Amelanchier gormani, a shrub obtained by M. Gorman,

at Yes Bay, Alaska, in 1895.

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**45272. GREENE, EDWARD LEE, 1843–1915.** A fascicle of new Arnicas. (Pittonia, Dec. 1900. v. 4, pt. 23, p. 159–74.)

Contains descriptions and distributional data on 24 species, among them Arnica lessingii, "a common and beautiful species of Alaskan shores and islands," and A. attenuata, collected on Lewis River, June 13, 1899, by M. W. Gorman.

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**45273. GREENE, EDWARD LEE. 1843–1915.** A fascicle of new violets. (Pittonia, Jan.–Apr. 1899. v. 4, pt. 20, p. 3–9.)

Contains descriptions and critical notes on 11 species, among them Viola mistassinica occurring in Labrador and the Hudson Bay region. Copy seen: DLC.

**45274. GREENE, EDWARD LEE, 1843–1915.** A fascicle of Senecios. (Pittonia, Jan.–Mar. 1900. v. 4, pt. 22, p. 108–124.)

Contains descriptions of 26 species from various regions, among them Senecio imbricatus collected at Reindeer Station, Port Clarence, Alaska, by J. T. White on Sept. 9, 1894.

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**45275. GREENE, EDWARD LEE, 1843–1915.** New or noteworthy species, III, XII, XIV, XV, XVIII, XX, XXII, XXVII. (Pittonia, 1888, v. 1, p. 215–25; 1892, v. 2, p. 222–33; p. 293–98; 1896–98, v. 3, pt. 13, p. 13–28; pt. 16, p. 154–72; pt. 17, p. 246–52; pt. 18, p. 306–311; 1900, v. 4, pt. 22, p. 146–58.)

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Thirty contributions, pub. 1887-1903,

give descriptions, critical notes and distributional data on about two hundred flowering plants from various regions of North America. In the numbers listed above, some 20 species native to Alaska and northern Canada are included. The numbers not listed do not deal with materials from the far North.

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45276. GREENE, EDWARD LEE, 1843–1915. New species of *Antennaria*. (Pittonia, July-Dec. 1899. v. 4, pt. 21, p. 81–85.)

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Contains descriptions of seven species, among them A. borealis, collected at Disenchantment Bay, Alaska, Aug. 10, 1892, by F. Funston.

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**45277. GREENE, EDWARD LEE, 1843–1915.** On certain Spiraeaceae. (Pittonia, 1892. v. 2, p. 219–22.)

Contains descriptions and critical notes on five species and one variety, among them Spiraea betulaefolia from Porcupine River, Alaska.

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**45278. GREENE, EDWARD LEE, 1843–1915.** Revision of *Romanzoffia*. (Pittonia, Sept.–Nov. 1902. v. 5, pt. 26, p. 34–42.)

Contains descriptions and distributional data on ten species, among them R. unalaschensis (Unalaska Island), and R. silchensis (Sitka) collected by J. M. Macoun in 1891 during British Bering Sea Commission Expedition.

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**45279. GREENE, EDWARD LEE, 1843–1915.** Segregates of *Caltha leptosepala.* (Pittonia, July–Dec. 1899. v. 4, pt. 21, p. 73–81.)

Contains descriptions and critical notes on nine species of this group of crow feet, among them two from Alaska: C. biflora (Bailey Bay) and C. confinis (Reindeer Station, Port Clarence).

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**45280. GREENE, EDWARD LEE, 1843–1915.** Some new acaulescent violets. (Pittonia, Sept.-Nov. 1902, v. 5, pt. 26, p. 29–33.)

Contains descriptions of eight species from various regions, among them Viola achyrophora collected in St. Paul Island, Bering Sea, by J. M. Macoun, July 18, 1897.

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45281. GREENE, EDWARD LEE, 1843–1915. Some new or critical Ranunculi.

(Pittonia, Jan.-Mar. 1900, v. 4, pt. 22, p. 142-46.)

Six species of Ranunculus are described and discussed, among them R. vicinalis obtained at Fort Selkirk on the Yukon River, in dry gravelly soil on June 9, 1899, by M. W. Gorman.

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**45282. GREENE, EDWARD LEE, 1843–1915.** Some west American Asperifoliae. (Pittonia, 1887. v. 1, p. 8–23.)

Contains descriptions of three genera and 26 species of this (borage) family, among them Allocarya plebeia (p. 16-17) occurring on the shores of the Aleutian Islands. Copy seen: DLC.

45283. GREENE, EDWARD LEE, 1843–1915. Studies in the Compositae, VII. (Pittonia, Feb.—Apr. 1898, v. 3, pt. 18, p. 264–98.)

Contains descriptions, critical notes, and distributional data on some 80 species of this family; a genus (Rainiera) and seven species are described as new. At least eight of the species are native to Alaska, Aleutian Islands, northern Canada, Lapland and Greenland. Other parts (I-VI, VIII) of this paper do not contain arctic material.

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**45284. GREENE, EDWARD LEE, 1843–1915.** Studies in the Cruciferae, II–IV. (Pittonia, 1897, v. 3, pt. 17, p. 252–54; (III) 1900, v. 4, pt. 23, p. 187–207; (IV) 1901, v. 4, pt. 25, p. 307–315.)

Contains descriptions, critical notes and distributional data on about 45 species of this family, 24 of them described as new. Included are Nesodraba grandis from St. Paul Island in Bering Sea, N. siliquasa native of Unalaska Island (II: p. 253); Arabis holboellii described from Greenland material (III: p. 187–88) and Draba oligantha n. sp. collected at Disenchantment Bay by F. Funston on Aug. 9, 1892 (IV: p. 313–14) Pt. I of this series does not contain arctic material.

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**45285. GREENE, EDWARD LEE, 1843–1915.** *Taraxacum* in North America. (Pittonia, Jan. 1901, v. 4, pt. 24, p. 227–33.)

Contains descriptions of eight species of dandelions, among them T. chamissonis, the most common species of the Alaska and Bering Sea shores and islands, and T. mutitum from Johnson River, Alaska

collected on June 27, 1890, by Capt. E. F. Glenn. Copy seen: DLC.

GREGORY, ROBERT A., see Godman, R. M., and R. A. Gregory. Soil-site relationships . . . 1956. No. 45147.

45286. GREÏVER, N. S. Gidrometallurgicheskafa pererabotka molibdenovykh kontŝentratov Takhtarvumchorrskogo mestorozhdenifa. (In: Khibinski apatity, 1933. t. 6, p. 147–53, graphs.) Text in Russian. Title tr: Hydrometallurgical refining of molybdenum concentrates of Takhtarvumchorr de-

posits.

Technological processes of refining are described, with consideration of the adverse relation of carbon content to amount of molybdenum extraction (5 percent Mo, 19 percent C: extraction 45 percent, but for 2 percent Mo. 6 percent C: extraction 90 percent). The results of the following processes are analyzed: (1) hydro-metallurgical firing at various temperatures with sodium carbonate, potassium nitrate, sodium chloride, sodium bisulfate; (2) leaching by sodium carbonate, ammonia; (3) purification of solution from phosphorous, arsenic and other impurities; and (4) precipitation of final product. The economics of these processes are discussed by P. F. Semerov and M. N. Dzhakson (No. 47897).

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45287. GREKOV, V. I. Naibolee rannee pechatnoe izvestie o pervoī Kamchatskoī ėkspeditsii, 1725–1730 gg. (Akademiſā nauk SSSR. Izvestiſā, seriſā geograſcheskaſā, Nov.—Dec. 1956, no. 6, p. 108–112.) 20 refs. Text in Russian. Title tr.: The earliest published information about the first Kamchatka Expedition, 1725–1730.

A note in the Danish newspaper Nye Tidende in 1730, and a summary of Bering's report published in Du Halde's Description . . . de la Chine . . . Paris, 1735, have been regarded as the earliest printed accounts of the first part of the Great Northern Expedition. Recently a brief report is found to have been published in the Russian newspaper Sanktpeterburgskie vedomosti, no. 22, Mar. 16, 1730, only few days after Bering's return. This seems to be the earliest printed record of the expedition and the source of the accounts published abroad. covery of a strait separating Asia from America is briefly discussed.

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45288. GRENAGER, BIRGER. Kvantitative undersøkelser av tang og tare. (Blyttia, 1953. bd. 11, hefte 4, p. 121–29.) Text in Norwegian. Summary in English. *Title tr.:* Quantitative survey of seaweed.

Includes brief reference to investigations in northern Norway, to methods used for quantitative determinations by the Institute for Seaweed Research, and to Printz's report on exploitation of seaweed, g. v. Copy seen: DLC.

45289. GREY, MARION. The distribution of fishes found below a depth of 2000 meters. (Chicago. Natural History Museum. Fieldiana: Zoology, July 30, 1956. v. 36, no. 2, p. 73–337, 3 tables.) 106 refs.

Account of 260 species reported from below 2000 m. in two parts. The first, general part (p. 77-93) deals with terminology, fishes found below 2000 fathoms, their character, endemism, etc., bathypelagic fishes. The second part (p. 94-279) lists the species, distribution, synonymy, etc. Seven arctic species, five of them endemic, are included. All the fishes considered in the study live in permanent darkness at temperatures close to the freezing point. Appendices show the vertical distribution of species and lists of benthic and bathypelagic fishes found below 1000 fathoms (ca. 2000 m.). Copu seen: DA.

GRICE, P. F., see Rodriguez, R. W., and others. Hypothermia . . . complications . . . control. 1956. No. 47629.

45290. GRICHUK, V. P., and R. V. FEDOROVA. K voprosu o kharakteristike prilednikovof rastiteľ nosti chetvertichnogo perioda na severe Aziatskogo materika. (Akademiñ nauk SSSR. Izvestiñ, seriñ geograficheskañ, Mar.—Apr. 1956, no. 2, p. 66–71, table.) 11 refs. Text in Russian. Title tr.: Quaternary periglacial vegetation in the North of Asiatic continent.

Ground samples were collected by E. S. Korotkevich a few years ago on the northwest coast of Kotel'nyy Island, from surface soil and at various depths to 1.20 m., the deepest from fossil ice. B. N. Gorodkov handed them to the Geographical Institute of the Academy of Sciences for analysis. Pollen and spore counts are tabulated in comparison with similar data from central Yakutia and other regions. Three layers of ground are distinguished by characteristic

pollen composition. Conclusion is offered that forests were not present in the Quaternary periglacial vegetation of this region. Presence of plant tissues in the fossil ice is attributed to accumulation of firn in relief depressions.

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45291. GRICHUK, V. P. Rastitel'nost' russkoI ravniny v nizhne- i srednechetvertichnoe vremîa. (Akademiâ nauk SSSR. Institut geografii. Trudy, 1950, vpp. 46, Materialy po geomorfologii i paleogeografii SSSR; raboty po sporopyl'fsevomu analizu, 3, p. 5–202, diagrs., tables, maps.) 96 refs. Text in Russian. Title tr.: Vegetation of the Russian Plain in the Lower and Middle Quaternary.

Summarizes results of paleobotanical investigations based chiefly on pollen analysis. Vegetation of the Russian Plain, including its arctic regions, is characterized for four geological epochs: end of the Pliocene and beginning of the Quaternary, climatic optimum of the Likhvin-Dnepr interglacial epoch, maximum glaciation, and climatic optimum of the Dnepr-Valday interglacial epoch. The paleogeographic distribution of various plants and their associations is discussed and mapped schematically; comparison is made with the present-day vegetation. Present-day dissemination of pollen was investigated by the Institute of Geography's Laboratory for Spore-Pollen Analysis at various stations, including one on the Andega River in Malozemel'skaya Tundra and another on the Shuga River at Ob' Bay; results are reported (p. 20-23).

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**45292. GRIEM, SYLVIA F.,** and **S. ROTHMAN.** Cutaneous sensitivity to cold. (American practitioner and digest of treatment, Aug. 1956. v. 7, no. 8, p. 1335–41.) 74 refs.

A review of the field, based largely on literature, especially that since 1924 when the concept of "physical allergy" was propounded. Cryoglobulinemia, paroxysmal (luetic) cold hemoglobinuria, cold hemagglutination and cold urticaria are discussed, specifically: first reports, incidence, symptoms and diagnosis, etiology, therapy, information from experiments, etc. Possible common cause "passive transfer" and its interpretation, etc., are also considered.

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45293. GRIFFIN, DONALD RED-FIELD, 1915—, and others. The comparative physiology of thermal insulation. Ladd Air Force Base, Alaska. Aug. 1956. 60 p. illus., tables (U. S. Air Force. Arctic Aeromedical Laboratory. Project no. 8-7951. Report no. 6.) 11 refs. Other authors: H. T. Hammel and K. S. Rawson.

A comprehensive study dealing, in pt. 1 (p. 1-29), with heat transfer through the skin and fur of living animals; this includes investigations on heat loss in red-backed voles, temperature gradients through the fur of Alaskan mammals in the winter and heat flow through the skin. Pt. 2 (p. 29-57) describes measurements of thermal conductivity and insulation value of various animal pelts in the fresh, dried or tanned state; some fur substitutes are also included in these determinations. A number of experiments were made in improving fur insulation by replacing the air in and around it by other gases.) Copy seen: DNLM.

**45294. GRIFFITH, J. W.** A bibliography on the occurrence of uranium in Canada and related subjects. Ottawa, Queen's Printer, 1956. 111, 34 p. (Canada. Geological Survey. Paper 56-6.)

Approx. 475 references mostly to Canadian publications, but including a few foreign papers that refer at length to Canadian deposits. Newspaper articles are excluded, and only such geological maps and reports are included as result from projects undertaken specifically because of uranium. References are grouped as general publications; those referring to individual provinces, including the Northwest Territories; works on particular subjects, as age determination, exploration, mineralogy, prospecting, etc. This third category includes several publications on northern Canada.

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45295. GRIFFITH, M. V. The thermal properties of frozen soil. (International Institute of Refrigeration. Bulletin (Supplement: Proceedings of meetings held at Grenoble, France, Sept. 24–25, 1954.) Annexe 1955–2, p. 147–53, tables.) Summary in French.

"Results of several earlier investigations on heat transfer and moisture migration in soils are reviewed, and some preliminary data are reported from laboratory studies in England on heat transfer to heat pump coils from different soil types. The measured values of thermal conductivity in soils surrounding chilled

pipes are considerably higher than the accepted values for the soils, a fact attributable to moisture migration toward the cold area. With freezing of the soil, the apparent conductivity of a representative soil rises to .0064-.0091 gm. cal./sec. sq. cm. ° C. The specific heat of clay soil at -6.6 ° C. near a cooling coil was 0.19 as compared with 0.23 for the same soil (dry) at 15.5 ° C. Diffusivity for a sample of the same soil at a moisture content of 32.6 percent was .0045 cc./sec. measured of a temperature range of -9.5 ° to -32.2 ° C."—SIPRE.

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45296. GRIFFITHS, THOMAS M. Glacial geomorphology on the Mt. Mc-Kinley massif, Alaska. (In: International Geographical Union. Eighth General Assembly and Seventeenth International Congress, Washington, D. C., Aug. 8–15, 1952. Proceedings, pub. 1956? p. 331–36, 2 illus., text map, cross-sections.) Refs.

The geology, structure and orogenic history of the massif are summarized: also climate and weather conditions. with emphasis on storm tracks and precipitation pattern. The massif displays two erosion zones, demarcated at approx. 16,500 ft. and this pattern is directly related to present storm levels. Maximum erosion takes place below that level. the highest of precipitation for frontal storms (major cirque headwalls reach about 16,000 ft. maximum). Above that level, weathering and erosion are modified and retarded by very low temperatures, low precipitation and thus small accumulation of snow and firn. Steep sides below 16,500 ft. give way to much gentler slopes above. Storm paths have also played an important part in rate and direction of mass retreat in the massif. Copy seen: DGS.

45297. GRIGGS, ROBERT FISKE, 1881– . Return of animal life to the Katmai district, Alaska. (Entomological news, Feb. 1917, v. 28, no. 2, p. 70.)

Notes that predacious animals, both mammals and insects, are returning before herbivorous types. The area near the volcano was practically devoid of insect life three years after the eruption (1915) but was fairly swarming in 1916. Most of these were predacious, parasitic or coprophilous. Study of the revegetation of the Katmai district was sponsored by the National Geographic Society.

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45298. GRIGOR'EV, A. V starom sibirskom gorode. (Ogonëk, Sept. 1956. god 34, no. 38, p. 4-5, illus.) Text in Russian. *Title tr.*: In an old Siberian town.

Sketch of Tobol'sk, founded soon after the conquest of Siberia by Ermak. Economic importance of the Ob' River fisheries, the fishery trust "Ob'ryba," with headquarters at Tobol'sk, and operations all the way up the Ob' basin.

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GRIGOR'EV, A., see also Rîabov, ÎU., and A. Grigor'ev. Na rodine ural'skikh ametistov. 1956. No. 47572.

45299. GRIGOR'EV, ANDREÍ ALEK-SANDROVICH, 1883– . Subarktika; opyt kharakteristiki osnovnykh tipov geograficheskol sredy. 2. izd., pererab. i dop. Moskva, Gos. izd-vo geogr. lit-ry, 1956. 222 p. tables, 2 fold. maps. (Akademiña nauk SSSR. Institut geografii.) Approx. 250 refs. Text in Russian. Title tr.: The Subarctic; characteristics of the basic types of the physical-geographic environment.

Second revised and enlarged edition of No. 6226. Folded maps are added showing distribution of various types of tundra in the U. S. S. R. and the tree line in North America. *Copy seen:* DLC.

GRIGOR'EV, V., see Rumantsev, A., and V. Grigor'ev. Truzhenniki tundr. 1956. No. 47701.

45300. GRIGORÍAN, GRANT. V ÍAkutii. (Sovetskafa muzyka, Oct. 1956. god 20, no. 10, p. 71–78.) Text in Russian. *Title tr.:* In Yakutia.

Describes old and new Yakut songs (some airs included), folklore and native instruments; prominent Yakut musicians are introduced. Data were gathered by the writer on two expeditions: the first, with S. Pavlov, a Yakut melodist and translator, investigated the Megino-Kangalasskiy and Amginskiy Districts; the second, with the Yakut poet, S. Danilov, and N. Il'in, director of the House of People's Art (Dom narodnogo tvorchestva), followed the Vilyuy River from the Suntarskiy District to Vilyuysk.

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GRIGORIAN, GRANT, see also Bazhov, N. Pesnia . . . 1956. No. 43910.

45301. GRIKHUTNIK, M. I., and M. I. IVLEV. Sovkhoz na Enisee. (Nauka i

peredovoĭ opyt v sel'skom khozíãĭstve, Mar. 1956. god 6, no. 3, p. 53-54, illus.) Text in Russian. *Title tr.*: State farm

on the Yenisev River.

Special state farms are established in Krasnoyarsk Province, Yakut A. S. S. R., and in Chukotka to supply workers in the Arctic with vegetables and milk. Achievements of one of these farms on the Yenisey River are reported: in 1954, it delivered 1508 tons of potatoes; 1927 tons of other vegetables, 406 tons of milk, a quantity of meat, etc. Crop and meat production data per hectare are given and methods of corn and vegetable culture noted.

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**45302. GRINDROD, J.** New type drainage pump. (Canadian mining journal, July 1956. v. 77, no. 7, p. 72,

cross-section.)

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Electric immersible pumps (manufactured by AB Flygts Pumpar of Stockholm) at the Luossavaara Kirunavaara Mines (67°51′ N. 20° 13′ E.) are described. They require no operators and no attention between monthly check-ups; take water an inch or more in depth, deal with a high percentage of solids, are frostproof and flameproof. To obtain higher lifts, two or more pumps can be coupled in series to increase the head.

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45303. GRIP, ERLAND. Den autoktona sedimentserien vid Laisvall. (Geologiska föreningen, Stockholm. Förhandlingar, 1950. bd. 72, häfte 3, no. 462, p. 369–71). Text in Swedish. *Title* tr.: The autochthonous sediment series at Laisvall.

Between the eastern border of the Swedish mountains and the Norwegian border in the Laisvall (66°06' N. 17°09' E.) region, the pre-Cambrian Sorsele granite passes into weathered breccia and then into arkose. Vertical and horizontal jointing, visible in the granite, have led to the weathering. In the arkose are fragments of granite which decrease upward in number and size. Chemical composition of the material also changes with increased transformation from granite to arkose. Over the arkose is a tillite-like conglomerate which the author believes to have been icemoved. In the series above this are some beds allied to those described by other writers on the region. Mineral occurrences are related to the geologic series. Copy seen: DGS.

45304. GRIP, ERLAND. Blymalmen vid Laisvall, dess geologi och en jämförelse med några utlandske förekomster. (Geologiska föreningen, Stockholm. Förhandlingar, 1954. bd. 76, häfte 3, no. 478, p. 357–80, 2 diagrs., 3 illus., text map) 15 refs. Text in Swedish. Summary in English. *Title tr.*: The lead ore at Laisvall, its geology and a comparison with some foreign deposits.

Geology in the arctic section of Sweden is closely allied with that immediately to the south. In Laisvall, where the lead deposit under consideration is found about 10 km, south of the Arctic Circle. the rocks involved are eo-Cambrian overlying Cambrian shales, the mineralization being related to zones of weakness and to quartzitic rocks. Local geology includes the peneplaned pre-Cambrian bedrock, deeply weathered. Several ridges above the peneplane level, which were above the level of the eo-Cambrian sea. are said to account for sedimentary differentiation, presently ranging from slate to conglomerate. The sequence of sedimentary series is explained, with reference to tectonic activity and ore deposition. The lead deposit is compared to similar occurrences in Germany, eastern Morocco, Wales, the northern Pennines of England and the Tri-state district of the United States.

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**45305. GRIPENFORS, BERTIL.** Över Ishavet, in i bergen. (Till fjälls 1956. Årg. 28, p. 26–32, illus.) Text in Swedish. *Title tr.:* Across the Arctic

Ocean, into the mountains.

Describes a visit to a coal mine in Longyearbyen (78°10′ N. 15°30′ E., Vestspitsbergen). A passage about 50 cm. high was inspected; according to local engineers it is gradually closing and will be impassable after one year. Virgohamna (79°40′ N. 10°30′ E.) on Danskøya, the starting point of Andrée's flight in 1897, was also visited.

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45306. GRÖNBLAD, ROLF LEO 1895—. On the desmids collected by Mauno J. Kotilainen in Tervola, north Finland. (Suomalainen eläin- ja kasvitieteellinen seura Vanamo. Tiedonannot (Archivum), 1955. v. 9, suppl., p. 40-44.) 7 refs.

Samples of desmids from various habitats are enumerated; the occurrence of 24 most interesting species collected in this region of northern Ostrobottnia and in Kuusamo, are tabulated.

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45307. GRÖNBLOM, THORWALD. Pieni herukkakoi, Incurvaria trimaculella H. S. ssp. quadrimaculella Höfn., tavattu eräässä puutarhasea. (Suomen hyönteistieteellinen aikakauskirja, 1941. v. 7, no. 3–4, p. 208.) Text in Finnish. Summary in German. Title tr.: Incurvaria trimaculella H. S. ssp. quadrimaculella found in a garden.

Contains a record of the find of this butterfly on the shrub of Ribes in a garden in Nokia; its larva was first discovered living on the leaves of currant in Salla, Kuusamo, in 1936. The author points out that it may develop as a pest of red and black currant, as was the case in Sweden.

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45308. GRØNLIE, OLE TOBIAS, 1871– . Nord-Norges geologi og dens betydning for landsdelens kultur. [Trondhjem], Noregs pedagogiske landslag, 1928. 80 p., 17 illus., 2 diagrs. Text in Norwegian. Title tr.: North Norway's geology and its significance in the local culture.

General discussion of the geologic origin and development of northern Norway's bedrock, loose earth, topography, and of both non-metallic and metallic deposits of economic value, to show the dependence of present occupance and activity upon the geology. Local occurrences of important deposits are cited, as are the difficulties of road and railway construction in a region where fjords and mountains are interspersed in the habitable sections near the coast.

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GRØNLIE, OLE TOBIAS, 1871– also Gjessing, G. Traen-funnene. 1943. No. 45139.

45309. GRØNTVED, JOHANNES, 1882- . Morten Pedersen Porsild. (Botanisk tidsskrift, June 1956. bd. 53, hefte 1, p. 117-19, port.) Text in Danish.

Obituary and tribute to this botanist, long active in West Greenland: his scientific work and travels; biographical notes are included. **Copy seen:** DA.

45310. GRØNTVED, JOHANNES, 1882- . Udnyttelsen af den grønlandske tang. (Grønland, Sept. 1956, nr. 9, p. 351-57, illus., table.) Text in Danish. *Title tr.*: The utilization of Greenland seaweed.

Describes the ten commonest seaweeds (all brown algae) which might be utilized as cattle fodder in Greenland, and gives their habitats: two species of Fueus; three Laminaria, etc. A few details are included on feeding sheep with seaweed in Greenland and on collecting it.

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45311. GROES, EBBE. Af et forhenvaerende monopols saga. (Grønland, Apr. 1956, nr. 4, p. 121-43, illus.) Text in Danish. *Title tr:* From the saga of a former monopoly.

Contains a survey of the Royal Greenland Trading Company 1950-55. In it, purchase and sales activities in Copenhagen, transport to and from Greenland. supply service and production in Greenland, monetary affairs and postal services are coordinated under one management. The purchase and export activities, management, etc., are on a commercial basis, but the supply service is conducted with emphasis on welfare of the population. Fish storage and plant have been built to help the fishing industry. Supply service, fisheries, hunting and sheep farming data are given; price development is traced: Greenland index rose 47 percent, Apr. The monopoly was 1950-Jan. 1956. abolished in 1951, consequences are discussed, and Groes' viewpoint is challenged by C. Sørensen, q. v.

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**45312. GROMME, OWEN J.** Bears for Milwaukee. (Beaver, Summer 1956, Outfit 287, p. 8–13, 6 illus.)

Popular account of a hunt for four polar bears for the Milwaukee Public Museum. The three-man party headed by R. A. Uihlein, and including the writer, traveled to Southampton Island in late Aug. 1954. Bears were shot from a Peterhead boat manned by three Eskimos.

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GROOM, GILLIAN, see Sweeting, M., and G. Groom. Notes . . . glacier fluctuations in Bünsow Land . . . 1956. No. 48321.

45313. GROSE, R. E., Editor. Industrial resources of Manitoba. Winnipeg, Dept. of Industry and Commerce, Prince of Manitoba, 1954. 256 p. 54 illus., 47 text maps, 174 tables.

Descriptive and statistical report for the prospective industrialist and investor. Physical geography, mining, forests, fish and fur, water resources, recreational resources, and transportation facilities are treated, with information on the northern part of the province. Further chapters deal with industry in the southern part, and factors in its development.

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45314. GROSS, W. H. The direction of flow of mineralizing solutions, Blyklippen mine, Greenland. (Economic geology, Aug. 1956. v. 51, no. 5, p. 415-25, 8 text maps.) 23 refs.

The lead-zinc orebody at Mesters Vig, northeast Greenland (72°09' N. 23°45' W.), is used to illustrate the application of flow techniques to a mine problem. At Blyklippen, relatively flat-lying sediments are downfaulted into a fairly simple graben structure. Faults are normal and generally filled with banded to crystalline Many places along main fault quartz. zones contain galena, sphalerite, and small amounts of chalcopyrite. Four methods for determining flow direction are described: structure, growth banding and asymmetry in quartz crystals, mineral zoning, and quartz decrepitation temperatures. Recent work at Blyklippen indicates that knowledge of flow direction is helpful as a guide in search for ore, although other factors must also be considered. Copy seen: DGS.

45315. GROSVENOR, ELSIE MAY BEJL. Alaska's warmer side. (National geographic magazine, June 1956. v. 109, no. 6, p. 737-75, 38 illus. (29 col.).) 7 refs.

Popular account (with excellent photographs) of author's trip from Seattle via the Inside Passage, Ketchikan, Juneau, and Cordova to Seward; rail trip from Seward to Anchorage; city of Anchorage and Matanuska valley; flight to the Katmai region and Lake Grosvenor, King Salmon, Bethel, Fairbanks, and Mt. McKinley National Park.

Copy seen: DGS.

45316. GROTE, AUGUSTUS RAD-CLIFFE, 1841-1903. Preliminary list of North American species of *Crambus*. (Canadian entomologist, Apr. 1880. v. 12, no. 4, p. 77-80.)

Contains an annotated list of 43 species of this lepidopterous genus (two described as new). C. labradoriensis, C. argillaceellus, C. trichostomus and C. unistriatellus are recorded in Labrador.

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45317. GROTEWAHL, MAX. Die Eroberung des Nordpols; die Geschichte der Männer, die hinauszogen ins ewige Eis um den Nordpol zu entdecken. Reutlingen, R. Bardtenschlager, [1954] 192 p. illus., map. 98 refs. Text in German. Title tr.: The conquest of the North Pole; the story of men who went into eternal ice to discover the North Pole.

Outline of the history of arctic expeditions, from those of Cabot, Davis and Barendsz, to the arctic flights in 1947; with emphasis on German polar expeditions in 1868-1870 and on Nansen's expedition 1893-1896. Chronology of main arctic voyages is appended, p. 185-89.

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**45318. GROVE, ARTHUR M.** Some geographical aspects of arctic Norway. (Minnesota Academy of Science. Proceedings, 1955, *pub.* 1956? v. 23, p. 86-87.)

Abstract of paper presented at the 23rd Annual Meeting of the Academy, Mankato, Minn., Apr. 29–30, 1955. Geographic limits of arctic Norway, its bedrock and glacial geology, a few climatic statistics for Tromsø and Vardø, growing season, and population are noted.

Copy seen: DGS.

45319. GROVES, JAMES WALTON, 1906-, and C. A. BOWERMAN. Sclerotinia borealis in Canada. (Canadian journal of botany, Nov. 1955. v. 33, no. 6, p. 591-94, illus., plate.) 2 refs. Pub. also as: Contrib. No. 1470 from the Botany and Plant Pathology Div., Science Service, Canadian Dept. of Agriculture, Ottawa.

"Sclerotinia borealis Bubak & Vleugel, previously known only from Sweden [type locality: Luleå in northern Sweden], Norway, Finland, and the U. S. S. R., has been found causing injury to cultivated grasses at Prince George, B. C. Apothecia have been developed in culture and compared with authentic material from Sweden. The fungus is homothallic and self-fertile."—Author's abstract.

Copy seen: DLC.

45320. GRUNDSTEDT, HENRY G. Hydroelectric power keeps NYAC gold placer on a paying basis. (Mining world, June 1956. v. 18, no. 7, p. 48-51, 7 illus., text map, table.)

Describes operations of New York Alaska Gold Dredging Corp. (NYAC), 65 mi. east of Bethel (60°48' N. 161°45' W.) in the Kuskokwim River basin, the only such company in Alaska to use hydroelectric power. Its camp (pop. approx. 100 in summer), modern facilities, radio station, and daily air service are noted. Supply problems are described; also the hydroelectric plant, maintenance of equipment, mining operations, exploration program, moving dredges to new sites.

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45321. GRUNDSTEDT, HENRY G. Sound planning and hard work make this Alaskan placer pay. (Mining world, May 1956. v. 18, no. 6, p. 53-55, 5 illus., port.)

Describes the Miscovich gold placer operation in the Poorman district (64°05′ N. 155°35′ W.), 66 mi. south of Ruby. Bulk freight is hauled in on sleds during winter. Operating conditions, determination of reserves, mining procedures, desliming operation, recovery plant are sketched.

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45322. GRUNIN, K. Â. Nasekomye dvukrylye, t. 17, vyp. 1; zheludochnye ovody (Gastrophilidae). Moskva-Leningrad, Izd-vo Akad. nauk SSSR, 1955. 95 p., 107 illus. (In: Fauna SSSR. Insecta Diptera, t. 17, vyp. 1 (nov. ser. no. 60).) 141 refs. Text in Russian. Title tr.: Dipterous insects; the botflies

(Gastrophilidae). Contains a systematic index of the species, and (in introductory part, p. 7-38) data on external structure, anatomy, physiology, biology, and geographic distribution: Africa, Asia, also a few cosmopolitan species living on domestic animals. Hosts are chiefly horses, mules and donkeys; damage done by the botflies as animal pests, methods of control and prophylaxis are presented. Systematic position of the family is shown. In the special part (p. 39-95) is a diagnosis of the family, keys to imagines, eggs and larvae of second and and third stages; seven species and six varieties (imagines and larvae) described with data on metamorphosis, biology, hosts and methods of control prophylaxis. Gastrophilus testinalis, a parasite of the horse and donkey, occurs in Yakut A. S. S. R. Copy seen: DLC.

45323. GRUNTOVICH, A. L. Poezdnafa vyvozka lesa na avtomobiliakh. (Lesnafa promyshlennost', Feb. 1954, god 14, no. 2, p. 23–24, illus.) Text in Russian. Title tr: Transportation of logs by auto-train.

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Special preparation of ice roads for hauling logs is described in detail. The road is scraped of snow and watered for icing. The logs are loaded on a few platforms mounted on sleds and connected by a loose chain with the automotive truck. The truck e has is operated by gas generated from young cuttings. The truck is heavily loaded with a ballast to increase traction of the rubber tires. The loose chains allow the train to start gradually one platform after another.

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45324. GRUZDEV, N. I. Tanki; teorifa. Moskva, Gos. izd-vo mashinostroitel'noI lit-ry, 1944. 482 p., tables, illus. graphs, diagrs. 36 refs. Text in Russian. Title tr.: Tanks; theory.

Textbook approved for the Military Academy and technical schools.

Presents theoretical and practical aspects of design and operation of self-propelled tanks. Formulas, graphs and tables are included for computation of load distribution stresses, and ice thickness required for tank traverse. Winter obstacles are dealt with, as snow embankments (p. 434) and frozen waterways, marshlands, and deep snow fields (p. 439-43.)

A free translation of a part of this book was pub. as: Tank performance in snow and mud (Land locomotion Research Laboratory. Research report, 1955. v 1, issue no. 2, p. 23–25, diagrs., tables) Copy in DLC. In it a number of parameters affecting tank performance are discussed. Tanks may sink and become immobilized if mud or snow depth exceeds ground clearance. Successful operation requires ground pressures below 4.2–5.6 psi. Critical snow thicknesses for various tanks are tabulated. Copy seen: DLC.

45325. GRYC, GEORGE, 1919—, and others. Mesozoic sequence in Colville River region, northern Alaska. (American Association of Petroleum Geologists. Bulletin, Feb. 1956. v. 40, no. 2, p. 209–254, 3 text maps, tables.) 8 refs. Other authors: W. W. Patton, Jr., F. M. Robinson, F. P. Rucker, H. R. Bergquist, R. L. Detterman, and C. L. Whittington.

Contains stratigraphic information obtained in the region 69°-71° N., 152°-160° W. during 1944-1953 by the U.S. Geological Survey in cooperation with the U.S. Navy's petroleum exploration

program in Naval Petroleum Reserve No. Changes, revisions, and new stratigraphic nomenclature since that pub. in Arctic Bibliography, No. 22268 and 31213 are summarized by Gryc, then discussed by others, viz.: The Tiglukpuk formation of Jurassic age and the Early Cretaceous Fortress Mountain and Torok formations, by W. W. Patton, Jr. (p. 213-23); Early Cretaceous Oumalik Topagoruk formations, by F. M. Robinson, F. P. Rucker, and H. R. Bergquist (p. 223-33); the Early to early Late Cretaceous Nanushuk group and its four formations, by R. L. Detterman (p. 233-44); revised stratigraphic nomenclature of the Late Cretaceous Colville group, by C. L. Whittington (p. 244-53); new Aiyiyak member of the Seabee formation, Colville group, by R. L. Detterman (p. 253-54). Copy seen: DGS.

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45326. GUBANOV, N. M., and K. P. FEDOROV. Gel'minty i gel'mintozy zatîsa-belîka Verkhoîân'îâ. (Moskva Moskovskiĭ gosudarstvennyĭ pedagogi-cheskiĭ institut im. V. I. Lenina. Uchenye zapiski, 1956. t. 96, vyp. 6, p. 127–35, tables.) 6 refs. Text in Russian. Title tr.: Helminths and helminthiases of the snowshoe rabbit in the Verkhoyansk area.

Contains a description of four species of parasitic worms (two roundworms and two tapeworms): their taxonomy, morphometry, sexual dimorphism, and development. Degree of infection of hared during May-November with individual species, pathology, etc., are also discussed.

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45327. GUBANOV, N. M. K biologii fsestody Taehia macrocystis, Diesing, 1850. (Moskva. Moskovskii gosudarstvennyl pedagogicheskii institut im. V. I. Lenina. Uchenye zapiski, 1956. t. 96, vyp. 6, p. 151–54, illus.) Ref. Text in Russian. Title tr.: To the biology of the tapeworm Taehia macrocystis, Diesing, 1850.

Contains information on mature parasites found in 3.4 percent of hares in the Verkhoyansk area, other hosts, artificial infection of wolves, anatomy and morphometry.

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GUBANOV, N. M., see also Ryzhikov, K. M., and others. Biologicheskii tsiki protostrongilûsov . . . 1956. No. 47724.

GUBANOV, N. M., see also Ryzhikov, K. M., and others. K biologii Mosgovoyia pectinata . . . 1956. No. 47725. GUBANOV, N. M., see also Ryzhikov, K. M., and others. Rasshifrovka biologicheskogo fsikla protostrongilûsov... 1956. No. 47726.

45328. GUDGER, EUGENE WILLIS, 1866 - A totally ambicolorate flounder, Platichthys stellatus, from Alaskan waters. (Copeia, Mar. 25, 1941, no. 1, p. 28–30.) 5 refs.

Contains a description and discussion of a "true ambicolorate flounder, being as dark on the left or lower side as it is on the right or upper side." This abnormal specimen had been caught 15-20 miles off Petersburg, Southeast Alaska.

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45329. GUDKOVICH, ZALMAN MAR-KOVICH. Depth soundings. Washington, D. C., 1956. 3 p. tables. (*In:* Somov, M. M. Observational data . . . drifting station 1950–1951, pt. 1; translated by E. R. Hope.)

Results from drifting station North Pole-2 in the Arctic Basin, 76°02' N. 193°33′ E. - 81°49′ N. 195°31′ E., Mar. 30, 1950-Apr. 11, 1951. soundings were made with a motordriven winch, and additional depth measurements were made in the course of taking bottom samples and other special studies. The drift path was such that the resulting measurements more clearly defined the submarine peninsula to the north of the Chukchi Sea, also the boundaries and structure of the continental slope. The coordinates and depth determinations are tabulated for approximately 285 measurements.

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45330. GUDKOVICH, ZALMAN MARKOVICH. Results of a preliminary analysis of the deepwater hydrological observations. Washington, D. C., 1956. 7 p. 4 diagrs., tables. (Somov, M. M. Observational data . . . drifting station 1950–1951, pt. 2; translated by David Kraus.) Diagrams and four supplements of tables are paged, from Russian original: 42–170.

The most interesting result of the analysis was the location of a characteristic warm interlayer at 50–100 m. Plankton studies and other considerations indicate that this water enters from the Bering Sea, and has been named Pacific Ocean water. All oceanographic data are tabulated including chemical composition, salinity determinations, and temperature measurements.

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45331. GUDKOVICH, ZALMAN MARKOVICH. Water-temperature observations and collection of samples for chemical analysis. Washington, D. C., 1956. 7 p. 2 illus., map. (In: Somov, M. M. Observational data . . . drifting station 1950–1951, pt. 1; translated by E. R. Hope.)

The observational program, equipment, and procedure are discussed. Observations, carried out at standard horizons, surface-3000 m and layer adjacent to bottom, included temperature, salinity, oxygen content, hydrogen-ion content, and transparency. The positions of the hydrological stations are mapped.

\*\*Copy seen: CaMAI.\*\*

45332. GUDLEVSKII. A. F. K voprosu ob ispol'zovanii ėnergii vetra v Khibinskom ralone. (*In:* Khibinskie apatity, 1933. t. 6, p. 233-37.) Text in Russian. *Title tr.:* Utilizing wind power in the Khibiny region.

Electric and mechanical power requirements for rapidly growing industry in the Khibiny are discussed with a view to some economical solution of this problem. Construction and development of a costly hydroelectric plant or of coal- or oil-heating plants are analyzed in comparison with the basic or auxiliary use of the wind power. Experimental wind power installation is suggested for the study of wind conditions in the Kol'skiy Poluostrov.

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GUÉRIN, J., see Laget, P., and others. Effets de l'ion calcium . . . 1965. No. 46208.

GUÉRIN, J., see also Laget, P., and others. Effets des variations thermiques lentes . . . 1956. No. 46210.

GUÉRIN, J., see also Laget, P., and J. Guérin. Quelques effets des variations thermiques . . . 1955. No. 46211.

GUERIN, LAURENCE F., see Morgan, J. F., and others. The effect of low temperature . . . ascitic tumor cells. 1956. No. 46840.

4533. GUILDAL, I. A. Den grønlandske befolknings dyriske snyltere. (Grønland, Jan. 1956, nr. 1, p. 33–40, illus.) Text in Danish. *Title tr.:* Animal parasites among Greenland's population.

Parasites found among Greenlanders represent 13 species; three tape-worms are found: Diphyllobothrium latum, D.

cordatum and Mesocestoides lineatus, almost exclusively in women. Data are given on cases (few) diagnosed and the development cycle of the worms is described. A warning is given against eating raw char.

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45334. GUL'BINSKAÑ, MARIANNA. V zasnezhennol tundre. (Sovetskañ zhenshchina, Apr. 1956, no. 4, p. 7, illus.) Text in Russian. *Title tr.:* In the snowcovered tundra.

Describes arrival of a projection team in Markovskiy rayon, Kamchatskaya Oblast', and showing of a film "Lenin v Oktabre" to members (Chukchis) of the eight reindeer-breeding brigades of the Zhdanov kolkhoz. Travel difficulties along the roadless tundra in April are noted. Copy seen: DLC.

45335. GULENKO, N. N., and V. E. GORA. Moshchnye snegoochistitel'nye i snegouborochnye mashiny. (Zheleznodorozhnyi transport, Nov. 1956. god 38, no. 11, p. 49-55, table, illus., diagr.) Text in Russian. *Title tr.:* Powerful snowplows and snow-removal machinery.

Snowplows in recent use on Soviet railroads are described, and their performance is discussed. New models to be tested in the winter of 1956-57 are described in detail. Snowplows built by the Central Office of Railroad Machinery can clear snow about 1.5 m. thick at speeds up to 65 km./hr. A new electric rotary snowplow tested on the Orenburg and Kuvbvshev railroads has been designed for removing snowdrifts up to 4.5 m. high. This model has two scrapers for cutting the snow and a rotor which will throw it a distance of about 65 m. Electric power for the motor-generators is supplied by main generators of the diesel locomotive pushing the snowplow. Five machines of this type will be ready before 1957 and another hundred at the end of five years. Snow removal from a station area is usually by smaller machines and plows. Construction of fences and panels and planting of forest belts are stressed as the more permanent measures for snow drift prevention on railways. Copy seen: DLC.

45336. GULÎAEV, IVAN ALEKSAN-DROVICH. Okhota na pushnykh zvereľ. Moskva, Fizkul'tura i sport, 1956. 80 p. illus. Text in Russian. Title tr.: Hunting fur animals.

Popular sketch of the biology, distribution, hunting and trapping of the main fur-bearers of the U. S. S. R., including animals occurring in the far North: squirrel, sable, fox, wolf, arctic fox, bear. Stress is laid on non-commercial hunting, especially with dogs. The main breeds of hunting dogs are characterized (p. 75–80).

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45337. GUMAELIUS, O. Några iakttagelser rörande Sveriges glaciala bildningar från åren 1874 och 1875. (Geologiska föreningen, Stockholm. Förhandlingar, 1876. bd. 3, häfte 1, no. 29, p. 8–20, plate.) Text in Swedish. *Title tr.:* Some observations on Sweden's glacial deposits, 1874–1875.

Deposits and direction of ice movement in the region of Kiruna and Torneträsk are described (p. 14-17). In the western upland there is evidence of ice movement both east and west. The moraines near Sulitjelma reportedly display remarkable mixture of source material near the center of ice movement (p. 17-20).

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45338. GUMAELIUS, O. Om jernmalmslagret vid Naeverhougen i Norge. (Geologiska föreningen, Stockholm. Förhandlingar, 1875. bd. 2, häfte 14, no. 28, p. 565–72, map, 5 diagrs.) Text in Swedish. *Title tr.*: On the iron ore deposit at Naeverhaugen in Norway.

Description of topography and bedrock in the Naeverhaugen locality (approx. 67°24′ N. 15°21′ E.) near Bodø, with consideration of the economic possibilities of the iron ore. Corneliussen's report (cf. No. 21294) is criticized.

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45339. GUMAELIUS, O. Om jernmalmslagret vid Naeverhougen i Norge. (Geologiska föreningen, Stockholm. Förhandlingar, 1876. bd. 3, häfte 11, no. 39, p. 322–35.) Refs. in text. Text in Swedish. *Title tr.:* On the iron ore deposit at Naeverhaugen in Norway.

Whether the iron ore may be eruptive is doubted. Earlier accounts of this outcrop are reviewed: completeness of field observation, proper mapping, interpretation of rock and mineral relationships, and the manner of occurrence of the iron ore, are considered and evaluated differently from Corneliussen. Copy seen: DGS.

45340. GUMAELIUS, O. Samling af underrättelser om jordstötar i Sverige. (Geologiska föreningen, Stockholm. Förhandlingar, 1884. bd. 7, häfte 2, no. 86, p. 107-109.) Text in Swedish. *Title* 

tr.: Collection of information on earthquakes in Sweden.

Includes reference to the tremor felt in Pajala parish in November, 1883.

Copy seen: DGS.

GUNDERSON, FREDERICK JOHN, 1903– , see Schultz, L. P., and F. J. Gunderson. New records . . . West Coast fishes. 1932. No. 47845.

45341. GUNDERSON, H. L., and others. Mammal observations at lower Back River, Northwest Territories, Canada. (Journal of mammalogy, May 1955. v. 36, no. 2, p. 254-59.) 17 refs. Other authors: W. J. Breckenridge and J. A. Jarosz.

Contains information on earlier exploration of the area; its physiography, soil, weather and vegetation; on the University of Minnesota-Wilkie Foundation Expedition, a seven-man party, which worked in the area July 13-Aug. 6, 1953; location of its camp (66°10′ N. 96°57′ W.) 150 miles west of Baker Lake, and work Field notes are given on nine planned. mammals either taken or whose remnants or traces were found in the area, viz. Barren Grounds grizzly and caribou, arctic fox, wolf, and hare, Parry's ground squirrel, brown and collared lemmings, musk ox. Copy seen: DA.

45342. GUNIN, A. Na Kol'skom poluostrove. (Okhota i okhotnich'e khozfalstvo, Feb. 1956, no. 2, p. 32.) Text in Russian. *Title tr.:* On Kola Peninsula.

Notes success of re-acclimatization of beaver in Chuna, Nyavka, Kupes' and other rivers of the Imandra Lake area on Kola Peninsula.

Copy seen: DLC.

GUNNING, HENRY CECIL, 1901–, see O'Neill, J. J., and H. C. Gunning. Platinum . . . Canada., 1934. No. 47184.

**45343. GUNSTON, DAVID.** Reducing the iceberg menace. (Nautical magazine, Jan. 1952. v. 167, p. 21–23.)

"Approx. 300-400 icebergs from the polar ice mass and Greenland glaciers are recorded annually, having traveled about 1800 mi. over a period of three years, when they reach the shipping lanes. Bergs are most dangerous in June and generally disappear by Aug. Small pieces which have reconsolidated

into a flow are called brash, larger pieces: growlers."—SIPRE.

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GUNTHER, ERNA, 1896—, see Krause, A. The Tlingit Indians . . . 1956. No. 46118.

45344. GUNTER, GORDON. Blainville's beaked whale Mesoplodon densirostris on the Texas coast. (Journal of mammalogy, Nov. 1955. v. 36, no. 4, p. 573-74.)

Record of a male, stranded after a hurricane at Padre Island, south Texas, first record of this species from the Gulf of Mexico. The genus comprising some seven very rare species, is cosmopolitan in distribution. Copy seen: DA.

45345. GUNTER, GORDON. A revised list of eurybalin fishes of North and Middle America. (American midland naturalist, Oct. 1956. v. 56, no. 2,

p. 345-54, tables.) 18 refs.

Reviews records of marine fishes in fresh water (in addition to anadromous species) and fresh-water species in the sea. Offers a list of 150 species in this euryhalin category, "recorded from both fresh water and pure sea water by competent observers." Numerous arctic forms are included, among them commercial fishes like the Salmonidae. The relation between euryhalinity and taxo-

nomic position is also discussed, as greater

among lower than more advanced fishes.

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45346. GUNTON, R. W., and others. Changes in cardiac rhythm and in the form of the electrocardiogram resulting from induced hypothermia in man. (American heart journal, Sept. 1956. v. 52, no. 3, p. 419–29, illus. table.) 24 refs. Other authors: J. W. Scott, W. M. Lougheed and E. H. Botterell.

Contains records and discussion of electrocardiograms from 29 adult patients, 24 without evidence of heart discase. Hypothermia was in the range of 28° to 30° C. It is concluded that auricular fibrillation is of frequent occurrence at this temperature range in subjects without heart disease, it is of a benign nature and not followed by a disturbance in heart function.

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45347. GUR'IÂNOVA, EVPRAKSIIÂ FEDOROVNA. DvadtsatyI rels "Vitiazia." (Neva, Feb. 1956, no. 2, p. 187, illus.) Text in Russian. Title tr.: The twentieth voyage of the Vitūz'.

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Short description of marine-biological work of the 1955 Complex Expedition of the Institute of Oceanology of the Academy of Sciences aboard the research vessel Vitaz'. Trawling and bottom sampling were conducted in the Kuril-Kamchatka, Japanese and Aleutian Trenches. Finding of fauna at 10,000 m depth refutes theory of absence of life in the deep.

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45348. GURINA, N. N. Osnovnye ėtapy drevneishei istorii Kol'skogo poluostrova po dannym arkheologii. (Leningrad. Universitet. Uchenye zapiski, no. 115, 1950. Fakul'tet narodov Severa, vyp. 1, p. 38–56, illus.) Ref. Text in Russian. Title tr.: Basic stages of ancient history of Kola Peninsula according to

archeological data.

Based on the 1928 investigations of A. V. Shmidt, q. v., and expeditions of the Institute of the History of Material Culture of 1935-37, and 1946-47. Four basic stages of culture and their geographical distribution are outlined; arctic paleolithic, arctic eneolithic (late neolithic), early and late metal ages. late neolithic stone labyrinths peculiar to Kola Peninsula and southern White Sea coast, southern Finland and some regions of Sweden and Norway are discussed; their use as fish traps is suggested, The settling of Kola Peninsula from northeastern Karelia and similarities and influences between contemporary cultures of Norway, to the west, and as far east as Yakutia seem apparent from the 1947 excavations. This paper was presented at the Northern Conference at Leningrad University, Dec. 10-14, 1947.

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45349. GURVICH, I. S. Éveny-trûgsasiry. (Akademiß nauk SSSR. Institut étnografii. Kratkie soobshcheniß, 1956. no. 25, p. 42-55, illus., map.) 6 refs. Text in Russian. *Title tr.:* The Éveny-Trûgssiry.

Account of the history and present conditions among the Tiûgâsir tribe of the Lamuts (a branch of the Tungus) inhabiting the region in Yakutia east from the Lena to the Omoloy River and from the Malyy Sakkyryr to Guba Buorkhaya of the Laptev seacoast (approx. 67°-72° N. 123°-130° E.). The origin and mythology of this people, their migration and movements, tribal subdivision, contacts with Yukaghirs.

Yakuts and others, are outlined. They are reindeer herders, who carry on hunting Their food, housing, and fishing also. and clothing are described. Marriage (exogamy), magic and burial rites are discussed. Population data are given (from No. 13159 of Arctic Bibliography) for 1897, when they numbered altogether 447. Administration of the Trugasir in the post-Revolutionary period is outlined. also their transition from a nomadic to a sedentary way of life: two, mainly reindeer-breeding, kolkhozes have been developed (which seem to comprise all or most Tiugiasir) and census-type data are given.

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Literacy is discussed (no data given). Teaching in the schools is in the Yakut language, which is displacing Even; the latter is understood but not spoken by middle-aged and younger people, according to a language poll taken in Dec. 1953. Based on the 1953–54 expedition of the Yakut Branch of the Academy of Sciences U. S. S. R. Copy seen: DLC.

45350. GURVICH, I. S. Izmeneniâ v kul'ture i byte naseleniâ kraïnego severa ÎAkutii pod vliîaniem kul'tury russkogo naroda. (In: Akademiîa nauk SSSR. ÎAkutskil filial. Institut îazyka, literatury i istorii. Vedushchaîa rol' russkogo naroda . . ., 1955. p. 160-71.) 5 refs. Text in Russian. Title tr.: The changes in the culture and customs of the population of the far North of Yakutia under the influence of Russian culture.

Describes the geographic distribution and migration routes of the peoples inhabiting northern Yakutia (Tungus, Lamuts, Yukaghirs and Chukchis), their customs, cultural level and basic economy in the 17th century, and the enanges resulting through close contact with Russian settlers. The industrial, economic, educational and medical advances under the Soviets, the introduction of collectivization, creation of kolkhozes, etc., are discussed. Copy seen: DLC.

GURVICH, I. S., see also Ionova, O. V., and F. G. Safronov. O sofsial'no-ėkonomicheskikh otnosheniūkh . . . IAkutii xvii-xix vekov. 1956. No. 45714.

GURVICH, I. S., see also Stepanova, M. V., and I. S. Gurvich. Wkagiry. 1956. No. 48199.

GURVICH, I. S., see also Tokarev, S. A., and I. S. Gurvich. Akuty. 1956. No. 48425.

45351. GUSAKOV, S. F., and A. S. VAĬOGANT. Proizvodstvo zemliānykh rabot v zimnee vremiā (Stroitel'naiā promyshlennost', Sept. 1956, god 34, no. 9, p. 7–10, illus., table, diagrs.) Text in Russian. *Title tr.:* Ground excavation in winter.

Methods and equipment for excavation of frozen ground are described in detail. A special electrically driven drill stand and Diesel-engine driven crane with crusher weight are used for preliminary breaking of the ground, and steam boiler equipment for thawing large surfaces. This equipment is used in laying of water and sewer pipes and in road construction (with prefabricated reinforced concrete plates or surface of fresh frost resisting reinforced concrete made of slag-Portland cement and a The work was chlorous ingredient). carried out successfully at air temperature -15° C. A 30-day concrete sample showed strength up to 179 kg./ cm2, and a 60-day sample to 243 kg./ cm2, i. e. about 100 percent specified strength. Copy seen: DLC.

**45352. GUTENBERG, BENO.** Earthquakes in the arctic area. [Washington, D. C.] 1956. 8 p. text maps. (*In:* U. S. Office of Naval Operations. The dynamic North, v. 1, no. 13.) 25 refs.

Contains a general discussion of the seismic features of the Arctic. Location and severity of earthquakes together with location of volcanoes are mapped for the North Pacific and Alaska area, and for the Arctic Basin and North Atlantic area.

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45353. GUTKOVA, N. N. Mineralogicheskafa s'emka Kitchepakhka. (In: Khibinskie apatity, 1933. t. 6, p. 197–99.) Text in Russian. Title tr.: A mineralogical survey of the Kitchepakhk.

Describes the southwestern part of the Khibiny tundras, composed mainly of normal and trachytoid khibinite, metamorphic strata and partially of other rocks; this survey, supplementing that of central Khibiny, indicates the absence of deposits of industrial value.

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45354. GUTKOVA, N. N. Mineralogifa llkspora po rabotam 1931–1932. (In: Fersman, A. E. Za polfarnym krugom, 1932. p. 27–37, illus., table, map.) Text in Russian Title tr.: The mineralogy of Yukspor according to investigations in 1931–1932.

Outlines classification of deposits in the zone of micaceous nepheline syenites of Yukspor Mountain, based on mineralogical surveying done by the Scientific Institute of Fertilizers (Nauchnyl institut udobrenil, NIU) and by the Academy of Sciences' Kola Peninsula Expedition in 1931–32. Six types of deposits are distinguished: aegirite-feldspathic, astrophylite, natrolite, yuksporite-pectolite, nepheline-feldspathic and apatite. Data on mineral distribution in various zones of the deposits are summarized in a table. Text map, 1:100,000.

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45355. GUTTORMSEN, ANDERS, Editor. I lys av østenstjernen; trekk fra samenes folkeliv og kultur. Utgitt i anledning "Nuor'tanásti"s 50-års jubieum. Oslo, Norsk luthersk forlag, 1948. 127 p., illus., ports., facsims. Over 300 refs. Text in Norwegian. Title tr.: In the light of the eastern star; features of Lappish folk life and culture. Published on the occasion of the 50-year jubilee of Nuor'tanásti [Eastern Star].

Short popular articles (40) on this Norwegian monthly journal for Lapps, and its staff members, on the work of the mission which sponsors it, and, generally, changes in Lappish life since the late 19th century. Education, population, and economic problems of the Scandinavian Lapps as a whole are touched upon, and leaders in various activities sketched. Numerous photographs and a few Lappish drawings.

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45356. GUZEK, JAN W. Hipotermia doświadczalna a przemiana materii. (Polski tygodnik lekarski, Nov. 1955. rok 10, no. 43, p. 1416–21.) 91 refs. Text in Polish. Summary in English. *Title tr.:* Experimental hypothermia and its role in metabolism.

Contains an account of metabolic disorders and their etiology. Also information on the metabolism of gases, carbohydrate, fat protein and minerals. The effect of proper diet, and the role of the nervous and endocrine systems in hypothermia, are also discussed. The account is largely based on literature including Polish sources.

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45357. GUZEK, JAN W. Hipotermia doświadczalna a układ dokrewny. (Polski tygodnik lekarski, 1956. rok 11, no. 17, p. 756-61.) 42 refs. Text in Polish.

Title tr.: Experimental hypothermia and the endocrine system.

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A review covering advances in this field since about 1950. It deals specifically with the effects of hypothermia upon the adrenal, thyroid, hypophysis and other endocrines; participation of the individual glands in temperature regulation. Both the physiological and morphological aspects of the problems are discussed.

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GUZEK, JAN W., see also Szafran, L., and others. Wpływ przewiekiej narkozy luminalowej . . . 1956. No. 48326.

45358. GVOZDETSKIĬ, NIKOLAĬ ANDREEVICH. Puteshestvifa V. L. Komarova. Moskva, Gos. izd-vo geogr. lit-ry 1949. 112 p. port., text maps. (Russkie puteshestvenniki.) 122 refs. Text in Russian. *Title tr.:* V. L. Komarov's journeys.

Brief biography of this outstanding Soviet botanist, explorer and President of the Academy of Sciences, Vladimi Leont'evich Komarov, 1869–1945. A popular account is given of his botanical expeditions in Asia, including (p. 74–91) two summer trips to Kamchatka in 1908 and 1909. Notes at the end of the volume include numerous references to Komarov's publications.

Abridged version of this work was pubunder the title V. L. Komarov by Geografgiz in 1953 (46 p.) with added illus. but references omitted.

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GVOZDEŤSKIĬ, NIKOLAĬ ANDREE-VICH, see also Severin, N. A. Otechestvennye puteshestvenniki . . . 1956. No. 47908.

45359. GYÖRFI, J. Beiträge zur geographischen Verbreitung der Schlupfwespen in Finnland und zur Kenntnis deren Wirten. (Suomen hyönteistieteellinen aikakauskirja, 1941. v. 7, no. 2, p. 86–91.) Text in German. Title tr.: Contributions to geographic distribution of ichneumon flies of Finland and their hosts.

Contains a systematic list of 31 species collected by E. Kangas and P. Lovászy in various regions of Finland in 1940-41, with localities and host insects. Seven species are recorded in Finnish Lapland.

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45360. HAAS, WILBUR M. Drainage index in correlation of agricultural soils with frost action and pavement perform-

ance. (National Research Council. Highway Research Board. Bulletin 111, 1955. p. 85-98, illus., diagrs., map, tables.)

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"The application of selected concepts of pedology to highway soil-engineering problems is discussed. Soil samples were taken from selected horizons of 19 soil types in glaciated areas of Wisconsin. Each profile was assigned a generalized frost-susceptibility rating based on the rating of each of its horizons. A comparison of these ratings with the drainage index shows that the soils least susceptible to frost action usually occupy the better drained positions; soils most susceptible to frost action are in the intermediate to poorly drained positions. Observations of pavement performance over several types of soil showed that there is a good correlation between the drainage index and actual pavement performance as measured by the intensity of pavement cracking, resurfacing requirements, and by the observable changes over a period of 10 yr."-SIPRE. Copy seen: DLC.

45361. HACHEY, HENRY BENEDICT, 1901- . Oceanography, its part in the International Geophysical Year. (Can-Dept. of Fisheries. Trade news, May 1956. v. 8, no. 11, p. 5-8, illus.)

Information is presented on the First and Second Polar Year and Canadian and American activities in them; genesis and program of the IGY; its central organization, areas of proposed Canadian participation (sea-level recordings, deepwater circulation, polar front survey, etc.); participation under auspices of other organizations (International Council for Exploration of the Seas, International North Pacific Fisheries Commission); observations from weatherships.

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45362. HACKMAN, WALTER. Contribution to the knowledge of Finnish spiders, II. (Societas pro fauna et flora fennica. Memoranda, 1953-54. v. 30, p. 47-49.) 7 refs.

Systematic annotated list of 11 species not previously recorded in Finland, among them, Lepthyphantes pallidus collected in Kuusamo region in 1951. For part I, see No. 22321.

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HACKMAN, WALTER. Lonchaeidae (Dipt.) of eastern Fennoscandia. (Notulae entomologicae, 1956. v. 36, no. 3-4, p. 89-115, 110 illus.)

Contains a critical revision of the family and an annotated list of 35 species, of which four are described as new. Among them: Lonchaea ragnari n. sp. from Pallastunturi, Enontekiö region, and at least ten others from Finnish, Swedish and Russian Lapland.

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45364. HACKMAN, WALTER. Spindlar från Pisavaara naturpark. (Societas pro fauna et flora fennica. Memoranda, 1953-54. v. 30, p. 44-47.) Ref. Text in Swedish. Title tr.: Spiders from Pisavaara Natural Park.

Contains a systematic list of 68 species collected in 1950 and 1951 in this park in northern Ostrobottnia, with brief data on habitat and local distribution.

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HADDY, FRANCIS JOHN, 45365. 1922-, and others. The effect of cold upon systemic small and large vessel resistance. Fort Knox, Kentucky, 13 July 1956. 12 p. illus. (U. S. Army. Medical Research Laboratory, Army project no. 6-64-12-028, report no. 252.)4 refs. Other authors: M. Fleishman, and J. Scott.

Report on experiments with dogs, exposed to 0° C. ambient temperature. The rise in total vascular resistance was found to be mainly due to small-vessel constriction, based on nervous, humoral and local mechanisms. The constriction of the large vessels was mediated by epinephrine or norepinephrine, either circulating or released from the ends of Copy seen: DNLM. local nerve fibres.

45366. HAEBERLIN, HERMANN K. Notes on the composition of the verbal complex in Haida. (International journal of American linguistics, Jan. 1923, v. 2, nos. 2-3, p. 159-62.) ref.

Discusses and supplements J. R. Swanton's linguistic analysis (No. 32342). Copy seen: DLC.

45367. HAEFELI, ROBERT, 1898and F. BRENTANI. Observations in a cold ice cap. (Journal of glaciology, Oct. 1955, v. 2, no. 18, p. 571-81; Mar. 1956, v. 2, no. 19, p. 623-30, 2 illus., text map, diagrs.) 24 refs.

The first part of this paper deals with investigations of morphological relationships and measurements of movement and deformation on the Jungfraujoch,

Switzerland. In the second part, "the relations between stress, movement, temperature, and viscosity conditions in coldice are discussed, with particular application to conditions of the Jungfraujoch. Some theoretical relations concerning the movement of icecaps with plane deformation are given, with special reference to central Greenland. Brief comparisons are made between conditions in Greenland and for alpine glaciers, and the importance of temperate glacier studies as a connecting link between arctic exploration and laboratory studies is suggested."—SIPRE.

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HAEFELI, ROBERT, 1898—, see also Robin, G. de Q., and others. The future . . . glaciology . . . 1956. No. 47616.

HAEGER, KNUT, see Johansson, B., and others. Electrocardiographic observations . . . hypothermia. 1956. No. 45805.

45368. HÄGG, RICHARD. Kvartāra marina fossil från Spetzbergen, insamlade av svenska expeditioner. (Geologiska föreningen, Stockholm. Förhandlingar, 1950. bd. 72, häfte 3, no. 462, p. 331–47.) 24 refs. Text in Swedish. *Title tr.:* Quaternary fossils from Spitsbergen collected by Swedish expeditions.

Fossil marine invertebrates, mainly molluses, collected in Vestspitsbergen since 1860, and now in the Royal Museum in Stockholm, are listed according to the geographic locations in which they were found. Species identification, date of collection, and number of specimens are included, along with names of collectors. Reference is made to the fact that several of the species are now lacking in the fauna of Vestspitsbergen waters, and the cause, it is suggested, may be lowering of the water temperature.

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45369. HAEKEL, JOSEF. Die Bestattungsformen bei den Stämmen Nordwestamerikas; Probleme und Ausblicke. (Zeitschrift für Ethnologie, 1955. Bd. 80, Heft 1. p. 102–115, map.) 32 refs. Text in German. Title tr.: Burial customs of northwest American tribes; problems and outlook.

Discusses embalming, cremation and interment, raised burial platforms, removal of body through specially made opening in the house, mourning customs, memorial poles, feasts, name taboos, etc.

The funeral rites of the Tlingit, Haida, Eyak, Koyukon, Tsimshian Indians, South Alaskan Eskimos and Aleuts are included. Interment is the oldest form of burial followed in turn by cremation, especially in the Na-Dene region, and embalming, a circum-Pacific custom.

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45370. HAEKEL, JOSEF. Initiationen und Geheimbünde an der Nordwestküste Nordamerikas; zum Problem ihrer Entstehung. (Anthropologische Gesellschaft in Wien. Mitteilungen, 1954. Bd. 83, Heft 3, p. 167–90.) refs. Text in German. Title tr.: Initiations and secret societies on the northwest coast of North America; the problem of their origin.

Describes the religious and magic dances (cannibal, grizzly bear, dog-eater, fire-thrower, etc.) of the Pacific Coast tribes, including (p. 175-77) the Tsimshian and Haida Indians. The rites, traditions, totem animals, shamanism, etc., are discussed. The spread and importance of secret societies decreases towards the north and is almost non-existent among the Tlingits.

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45371. HÄMET, RAIJA-LEENA. Eräiden eteläisten lajien esiintymistä Kuusamossa. (Suomalainen eläin- ja kasvitietellinen seuran Vanamo. Tiedonannot (Archivum), 1956. v. 10, no. 1, p. 60–63, 4 text maps.) 8 refs. Text in Finnish. Summary in German. Title tr.: On the occurrence of some southern plants in Kuusamo, in northern Finland.

Deals with distribution and northern limits of Epipogium aphyllum, Oxalis acctosella, Convallaria majalis, Galium triflorum and Tussilago farfara in the Kuusamo region. Copy seen: DLC.

HÄRME, MAUNU, see Ödman, O. H. R., and others. Den svensk-finska geologiska exkursionen i Tornedalen . . . 1948. 1949. No. 47136.

45372. HÄYRÉN, ERNST FREDRIK, 1878- . Mossor från Lapponia petsamoënsis. (Societas pro fauna et flora fennica. Memoranda, 1954-55. v. 31, p. 56-62.) Ref. Text in Swedish. *Title tr.:* Mosses from Petsamo Lapland.

Lists 93 moss and 43 liverwort species, with very brief notes on habitats and local distribution. Copy seen: DSI.

45373. HAGEM, OSCAR. Beretning om stationens virksomhet i 1916. Bergen, 1917. 27 p., illus., text map, 2 plates, 11 tables. (Norway. Vestlandets forstlige forsøksstation. Meddelelse, nr. 1, bd. 1, hefte 1.) Text in Norwegian. *Title* tr.: Report of the station's activity in 1916.

Climatic conditions of Norway are compared with those elsewhere in the Northern Hemisphere as requirements for forest species. Larix sibirica and Abies sibirica from arctic Russia, and hardy species from America have been planted in the research station plots and will be reported on later. Copy seen: DA.

45374. HAGEM, OSCAR. Beretning om stationens virksomhet i 1917, 1918, 1919; avgit i henhold til forsøksstationens reglement §6 ved stationens styre. Bergen, 1920. 26 p., diagrs., tables. (Norway. Vestlandets forstlige forsøksstation. Meddelelse nr. 3, bd. 2, hefte 1.) Refs. in text. Text in Norwegian. Title tr.: Report on the station's activities in 1917, 1918, 1919; published in compliance with the research station regulation, nr. 6, by the station's director.

Includes discussion of successful growing of trees from imported seed, some from arctic locations; criticisms of author's report on Pinus silvestris and Picea excelsa (No. 45375) are considered; investigation of Pinus silvestris seed from Troms for cone years 1916 and 1917 is reported.

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45375. HAGEM, OSCAR. Furuens og granens frøsaetning i Norge; belyst ved undersøkelse af kongleaarene 1912–13–14. Bergen, 1917. 188 p., illus, 19 plates, diagrs., maps, 59 tables. (Norway. Vestlandets forstlige forsøksstation. Meddelelse nr. 2, bd. 1, hefte 2.) 58 refs. Text in Norwegian. Title tr.: The seeding of pine and fir in Norway; illustrated from investigations of the cone years 1912–13–14.

Pinus silvestris cone and seed studies were made, based on 157 collections from numerous described locations, many representing coastal, inland, and upland forests in northern Norway. Effects of arctic conditions on blossom, cone, and seed development and forest rejuvenation are presented. Comparisons are made with northern Finland and Sweden; consideration is given to earlier researches, and to the earlier greater extent of forest. More limited studies on Picea excelsa are also reported.

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45376. HAGEN, INGVAR. The irruption of hawk-owls, *Surnia ulula* (L.), in Fennoscandia 1950-51, with some re-

marks on recent micro-rodent cycles. Stavanger, 1956. 22 p., 3 diagrs., 3 text maps. (Stavanger Museet. Sterna, no. 24.) 27 refs.

Discusses the great number of hawkowls in autumn and winter 1950-51, observed mostly in the central and southern sections of Sweden and Finland. The author disputes the opinion of some Scandinavian ornithologists that the owls came perhaps from northern Russia and Siberia because of the low reproduction of lemmings and voles since 1942. Recent micro-rodent cycles (L. lemmus, Microtus agrestis, M. oeconomus, Clethrionomys glareolus and C. rufocanus), are reviewed; also rodent frequency and owl reproduction. Conclusion is offered that the rodent population in northern localities decreased in 1950-51 and thousands of hawk-owls were forced to evacuate these districts moving towards central and southern parts of Sweden and Finland. Copy seen: DLC.

45377. HAGEN, PEDER. Litt om reindriften i Nordland. (Sameliv; Samisk selskaps årbok 1951–1952. p. 83–86.) Text in Norwegian. Title tr.: Short notes on reindeer husbandry in Nordland.

Until about 1800, and in some districts till the second world war, reindeer in Nordland (approx. 65°-68°40′ N. 14° E., north Norway) moved into Sweden for winter pastures; but nowadays most of the reindeer husbandry is more local in character. There are about 100 reindeerherding families in the district, who own about 16,000 animals. Another 10,000 could be maintained, it is estimated, as grass pastures are good.

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45378. HAGERUP, OLAF, 1889—. Autogami hos Chamaeorchis. (Blyttia, 1953. bd. 11, hefte 1, p. 1-5, 6 illus.) 6 refs. Text in Norwegian. Summary in English. Title tr.: Autogamy in Chamaeorchis.

Orchids north of the Arctic Circle in Scandinavia may be either autogamous or endogamous. The mechanism of self-fertilization of Chamaeorchis alpina is described and illustrated. Specimens of this species from Norway and northern Sweden were embedded in paraffin and studied microscopically in thin sections.

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45379. HAGGERTY, JAMES J., Jr. Subways under the icecap. (Collier's,

May 11, 1956. v. 137, no. 10, p. 88-93.

7 col. illus., text map, diagr.)

Popular account of U.S. Army research in tunnel building under the Greenland inland ice in the Thule region. Construction of a trans-Greenland subway for electric trains with under-ice way stations appears feasible. Subway from Thule northeast to Pearv Land would provide means of supplying air bases and missile launching sites about 500 mi. nearer the Pole where supply by sea is impossible. Author visited tunnels at one of the two permanent installations on the icecap and at Camp Tuto (Thule take-off) 14 mi, southeast of Thule, Construction of snow-compacted runway is also described. Copu seen: DLC.

45380. HAGLUND, BERTIL, Editor. Den levande skogen; handbok för skogsvandrare. Stockholm, Norstedt, 1955? 208 p., illus. Text in Swedish. tr.: The living forest; handbook for forest wanderers.

Papers (11) by the editor, R. Ivarsson and E. Sillerström, well illustrated with photographs and drawings. Tree species of the Swedish forest are identified and described in turn. Associated vegetation, forest climate, soils, mycorrhiza, animals, birds, also tree diseases and pests are discussed, with references throughout to the far North.

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45381. HAGLUND, DONN KEITH, 1926- . Recent economic developments in the Godthaab District, Greenland. (Association of American Geographers. Annals, June 1956. v. 46, no. 2,

p. 248-49.)

Abstract of paper presented at the 52nd Annual Meeting of the Association, Montreal, Apr. 1-5, 1956. Godthaab (64°11′ N. 51°43′ W., pop. 2,300) has been the administrative focus for all Greenland since 1947; in 1954 it became the health center. The Greenland Provincial Council has convened there each Aug. since 1953. Housing and other construction, radio, press, and private business grow in the town, also, more slowly, in outlying settlements. Reindeer and sheep herding experiments have been successful. Copy seen: DGS.

45382. HAGMEIER, EDWIN M. Distribution of marten and fisher in North America. (Canadian field-naturalist, Oct.-Dec. 1956, v. 70, no. 4, p. 149-68. 2 text maps.) 255 refs.

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The distribution of marten (Martes americana) and fisher (M. pennanti) as known at present is reviewed: the data presented by states, provinces and territories (text maps), include Alaska, northern Manitoba, Northwest Territories, northern Quebec, Labrador, and Yukon Territory. Copy seen: DA.

45383. HAHN, P. Effect of environmental temperatures on the development of thermoregulatory mechanisms in infant rats. (Nature, July 1956, v. 178, no. 4524, p. 96-97, table.) 9 refs.

Account of experiments designed to counteract, by short exposures to cold. the inhibitory effect of high environmental temperature upon development of thermoregulation. The results indicate that thermoregulatory reactions to cold develop post-natally in close dependence on environmental temperature. Copy seen: DNLM.

45384. HAHN, P., and others. Vývoj thermoregulace, 1; k otazce vývoje thermoregulačních mechanismů krysího mláděte. (Československá fysiologie, 1956. ročník 5, sešit 3, p. 295-301, illus., table.) 13 refs. Text in Czech. Other authors: Title tr.: J. Křeček and J. Křečková. Development of thermoregulation, 1; on the problem of development of thermoregulatory mechanisms in young rats.

Account of investigations of the problem at ambient temperatures of 29.5° and 10° C. In the cold environment, rectal temperature fell quicker in 14-dayold than in 18-day-old animals, and reached 15° C. In maintaining identical body temperature at the same ambient temperature, young animals used up more oxygen than old ones. The probable cause of this difference is discussed.

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45385. HAHN, P. Vývoj thermoregulace, 2; o účasti štítné žlazy při vývoji thermoregulace u krys. (Československá fysiologie, 1956. ročník 5, sešit 3, p. 302-307, illus., table.) 17 refs. Text in Czech. Title tr.: Development of thermoregulation, 2; role of thyroid gland in the development of thermoregulation in rats.

Report of investigation on the effects of medium (29° C.) and low (10° C.) temperature upon rats thyroidectomized 4-5 days after birth. At the age of 18 days, fall of rectal temperature due to cold, was greater than in controls, but smaller than in 14-day olds; 0<sub>2</sub>-requirement in the cold was, for a given rectal temperature, lower than in non-operated controls. In the warm environment rectal temperature was also lower than that of normal controls.

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45386. HAIST, REGINALD EVAN, 1910-, and others. Effect of previous cold acclimatization in rats shocked by a clamping technique. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 86.) Other authors: H. Schachter, S. Sidlofsky, J. R. Hamilton and D. G. Baker.

Summary of experiments indicating that animals shocked by clamping and acclimatized to 1° C. showed a slower drop in body temperature than non-acclimatized rats; also survival times were lengthened and the fall in 0<sub>2</sub>-consumption was slower in cold-adapted animals.

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45387. HAJDUKOVIĆ, S. Modification de la radiosensibilité du rat par hypothermie profonde. (Acta radiologica, Sept. 1955. v. 44, fasc. 3, p. 249–56 tables.) 37 refs. Text in French. Summary in English. *Title tr.:* Modification of x-ray sensitivity of the rat by deep hypothermia.

Hypothermic rats (rectal temperature 14°-15° C.) irradiated with lethal doses of 800 or 900 r showed a 50 percent survival for more than 30 days, while all controls died within 17 days. Similar protection was offered by 0<sub>2</sub> or an air pressure of 1.25 atmosphere. The protection of hypothermia is attributed to a general lowering of metabolism.

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45388. HAKULINEN, RAINAR. Lisätietoja pohjoisen Fennoskandian jäkäläkasviston tuntemiseen. (Suomalainen eläin- ja kasvitieteellinen seura Vanamo. Tiedonannot (Archivum) 1955. v. 9. Suppl., p. 44–55.) 22 refs. Text in Finnish. Summary in German. Title tr.: New contributions to the knowledge of the lichen flora of northern Fennoscandia.

Contains a systematic list of 283 lichen taxa with distributional data, including 209 species, one subspecies, 40 varieties and 33 forms, collected by the author during his trip through Finnish Lapland

and Norwegian province of Finnmark to Vardø on the arctic coast.

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45389. HALE, MASON E., and W. L. CULBERSON. A checklist of the lichens of the United States, Canada, and Alaska. (Castanea, 1956. v. 21, p. 73-105.) pub as Contribution no. 78 from the Herbarium of West Virginia University.

Contains the scientific names of about 2,280 species in 193 genera arranged in alphabetical order. A partial list of over 200 synonyms is also included. The list represents "a floristic summary . . . of recent taxonomic and nomenclatural research."

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HALL, EUGENE RAYMOND, 1902–, see Bee, J. W., and E. R. Hall. Mammals . . . northern Alaska . . . 1956. No. 43919.

**45390. HALL, HENRY S.,** Jr. A geologist in the Arctic. (American alpine journal, 1956; v. 10, no. 1, issue 30, p. 136–38).

Contains excerpt from letter to Hall by geologist E. F. Roots, describing Operation Franklin, Canadian Geological Survev mapping project in the Queen Elizabeth Islands, summer 1955. Roots and others spent May and June establishing main camps and fuel caches using ski-DC-3 aircraft and dog teams; dog-sledging trips were also made to determine basic stratigraphy on Ellesmere, Ellef Ringnes, Melville, and Somerset Islands. two-man field teams were distributed by helicopters at pre-selected points in June, and work was carried out by foot traverses, camp moves by helicopter. Poor visibility kept parties grounded more than a third of the time. Interesting topographic and geologic features of Axel Heiberg are briefly described.

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**45391. HALL, HENRY S.,** *Jr.* Mrs. Josephine Diebitsch Peary, 1863–1955. (American alpine journal, 1956. v. 10, no. 1, issue 30, p. 194.)

Brief obituary of Mrs. Robert E. Peary, noting her participation in Peary's expeditions of 1891, 1892, 1893, and 1894, and leadership of the Peary Relief Expedition of 1900–1901 and 1902; birth of her daughter during 1893 expedition. She was last remaining original member of the American Alpine Club.

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**45392. HALL, JOHN L.** A pre-logging salmon stream study. (*In*: Alaskan Science Conference . . . 1953. Proceedings.

pub. 1956, p. 105-106.)

Abstract of report on the Alaska Forest Research Center study (from 1949) to determine effects of logging on salmon streams. Four water sheds typical of those on the Ketchikan Pulp Allotment were selected on Prince of Wales Island, Southeast Alaska (55°40′ N. 133° W.), two to be logged, two used as controls. Weather and water height records are collected, yearly mapping program carried out to note physical changes, and fish are trapped. Results will be studied.

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45393. HALLDAL, PER, and J. MAR-KALI. Electron microscope studies on coccolithophorids from the Norwegian Sea, the Gulf Stream and the Mediterranean. Oslo, J. Dybwad, 1955. 30 p. 27 plates. (Norske videnskaps-akademi, Oslo. Matematisk - naturvidenskapelig klasse. Avhandlinger, 1955, no. 1.) 35 refs.

Contains notes on materials, methods and terminology, followed by a list of 27 species of cocoolithophorids classified or characterized in the light microscope and observed in the electron microscope. A great variety in the shape and microstructure of the coccoliths is demonstrated. Nine species are described as new. A part of material used in the study was collected by weather ship M in Norwegian Sea at 66° N. 02° E. A list of coccolithophorids, arranged according to the structure of their coccoliths, is appended.

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45394. HALLER, JOHN, 1927— . Der Eisschild von Grönland. (Leben und Umwelt, May 1956. Jahrg. 12, p. 169–77, 6 illus., table, 2 text maps.) Text in German. *Title tr.:* The Greenland ieecap.

Contains brief summary of Greenland expeditions and a general description of the glaciological characteristics of the inland ice. A calculation of the annual mass deficit of the icecap (100 km.³ of water) based on data from the Expéditions Polaires Françaises, 1948–1951, is included.

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45395. HALLER, JOHN, 1927–. Geologie der Nunatakker Region von Zentral-Ostgrönland zwischen 72°30′ und 74°10′ n. Br. København, C. A. Reitzel, 1956. 172 p., illus., maps incl. 2 fold.,

sections incl. 2 fold., diagrs., graphs, tables. (Meddelelser om Grønland. bd. 154, nr. 1.) 65 refs. Text in German. Summary in English. *Title tr.:* Geology of the nunatak region of central East Greenland between 72°30′ and 74°10′ N. lat.

Contains results of investigations during the Danish East Greenland Expeditions, 1947-54. Following summary of work done 1926-1954, a detailed description is given of the late Precambrian (Greenlandian) sediments affected by early Paleozoic (Caledonian) folding. are divided here into the Eleonore Bay and Tillite formations. Petrography of the Caledonian crystalline rocks ("western metamorphic complex") and of the Cretaceous-Tertiary basalt formation in the northernmost part of the region is dealt with in detail; also elements of the Caledonian fold structure and late and post-Caledonian fracture systems. Copy seen: DGS.

45396. HALLER, JOHN, 1927 - .
Probleme der Tiefentektonik. Bauformen im Migmatit-Stockwerk der ostgrönländischen Kaledoniden. (Geologische Rundschau, 1956. Bd. 45, Heft 2, p. 159–67, diagrs.) 9 refs. Text in German. Title tr.: Problems of deep tectonics. Structural forms in the migmatite stockwork of the East Greenland Caledonides.

Contains discussion of the region of Caledonian folding between 70° and 75° N., particularly in the Kong Oscars Fjord-Kejser Franz Josephs Fjord region. Author worked there during 1949–1954 as a member of the Danish Expedition to East Greenland led by Lauge Koch. Stratigraphy is described, followed by a more detailed discussion of structural forms and origin. The various types of structure are shown in diagrams.

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45397. HALLOCK, H. R. Troop operations in the North. (Military engineer, May-June 1956. v. 48, no. 323, p. 214–17, illus., map.)

Steps taken early in 1947 to develop a program for maintenance and repair of certain U. S. military bases and weather stations located in northeastern Canada and southwest Greenland are described. The installations had been made in World War II, but, their use curtailed, the facilities deteriorated. An engineer survey crew made a two-month study of

six air bases. Much of the equipment was well preserved, due largely to the dry climate. Combined military units were formed in Mar. 1947 to perform the rehabilitation work. Logistic support proved to be the major problem. The need for advanced planning and the advantages of troop labor in operations of this kind are stressed.

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45398. HALLSJØ, ARNE. Våre reinslakterier. (Sameliv; Samisk selskaps årbok 1951–1952, p. 87–93, illus.) Text in Norwegian. *Title tr.:* Our reindeer slaughterhouses.

Describes the seven slaughter-houses for reindeer built in Norway since 1949. They are essential both to facilitate work for the Lapps and to guarantee high-quality meat for the public. Regulations for slaughter of domestic animals and of reindeer are discussed.

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45399. HAMBERG, AXEL, 1863–1933. Bau von Hütten im Sarekgebirge. Stockholm, Centraltryckeriet, 1926. 46 p. illus., diagrs. (1 fold.), map, tables. (His: Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 1, Abt. 1, Historik und Topographie, Lfg. 1). Text in German. Title tr.: Building of huts in the Sarek Mountains.

Contains a detailed account of the author's hut construction activities during his expeditions into the Sarek Mountains since 1895. Construction procedures and features of various types of shelters and huts used for research stations, observatories, and storage units are given with diagrams showing the framework and numerous photographs. The earlier huts were simple wooden structures and those near Pårek were former Lapp dwellings which consisted of alternate layers of birch trunks, birch bark, and light surface peat. Subsequent huts at Pårtetjåkko, Pårek, Litnok, Tjågnons, and Skårkas (the last four are located in the Rapadalen) were constructed of sheet iron (plates 60 x 180 cm.) nailed to both sides of the wooden frame. The intermediate space was filled with cotton. Transportation difficulties were a prime consideration in preference of sheet iron to stone or wood. The thermal properties of the Sarek huts are discussed and compared with huts of other construction types. Transportation methods of supplies are outlined and the effect of ice deposits from fog on huts located at higher altitudes is described.

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45400. HAMBERG, AXEL, 1863–1933. Berättelse om en resa i Sarjekfjällen sommaren 1895. (Svenska turistföreningen, Stockholm. Årsskrift, 1896, p. 152–92, 3 diagrs., 11 plates, fold. map.) Refs in text. Text in Swedish. *Title tr.:* Report of a journey in the Sarek Mountains during the summer of 1895.

Investigation is reported of mountain peaks and glaciers, their characteristics, and the nature of a little known region. In forty days' travel above the treeline, topographic mapping and bedrock and glacier ice studies were the primary objectives.

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45401. HAMBERG, AXEL, 1863–1933. Die Eigenschaften der Schneedecke in den lappländischen Gebirgen. Stockholm, Centraltryckeriet, 1907. 68 p. illus., tables, map, diagrs. (His: Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 1, Abt. 3, Gletscherkunde, Lfg. 1.) 63 refs. Text in German. Title tr.: Properties of the snow cover in the mountains of Lapland.

"Various properties of the winter- and summer-snow zones, and of the rime and hoar zone of the summits are discussed. Included are melt phenomena and snowsurface modifications, snow dunes and ripples, snow retention in coniferous areas, snow line, melt-phenomena due to direct solar radiation and wind, avalanches and glaciers. Snow zones in other parts of the world are analyzed. Chemically effective radiation as well as heat radiation penetrate the snow causing internal melting of the snow on dark objects near the snow surface. Warm winds transform a smooth snow surface into a rippled one due to the melting process. Many of the glaciers are alimented by rime and hoar avalanches."-SIPRE. Copy seen: DGS.

45402. HAMBERG, AXEL, 1863–1933. Ermittelung des Einflusses des terrestrischen Horizontes auf die Sonnenscheindauer. (In his: Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 5, Arbeiten des Pårtetjåkko-Observatoriums, unter besonderer Leitung einer K. Kommission, Lfg. 1, pub. 1931. p. 89–103, illus., tables, fold. plate.) Text

in German. Title tr.: Determination of the influence of the terrestrial horizon

on sunshine durations

Determinations of the terrestrial horizon with the use of a photogrammetric camera at the Pårtetjåkko Observatory are described. The importance of knowing the course of the terrestrial horizon in relation to the astronomical horizon in determinations of the maximum sunshine duration at high latitudes is emphasized. Sunshine duration values for different sun declinations, and a comparison between calculated and the graphically determined influence of the terrestrial horizon on sunshine duration at various declinations are given. Two panoramic plates showing the apparent solar paths at the station are appended.

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45403. HAMBERG, AXEL, 1863-1933, and A. JONSSON. Meteorologische Beobachtungen auf dem Pårtetiåkko während des Beobachtungsjahres 1. Juli 1914 bis 30, Juni 1915. (In his: Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland. 1907-1939. Bd. 5. Arbeiten des Pårtetiåkko-Observatoriums, unter besonderer Leitung einer K. Kommission, Lfg. 2, pub. 1933, p. 105-210, tables.) in German. Title tr.: Meteorological observations on the Pårtetiåkko during the observation year July 1, 1914 to June 30, 1915.

Contains tabulated daily values for each month of atmospheric pressure, temperature, humidity, wind direction and speed, hydrometeors, sunshine duration, cloud types and movement, snow depth and density, and ground temperature. The observations were taken at 67°09'22,6" N. 17°37'57" E., altitude 1834 m.; they were continued the follow-

ing year by H. Köhler, q. v.

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45404. HAMBERG, AXEL, 1863-1933. Das meteorologische Observatorium auf dem Pårtetjåkko. (In his: Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907-1939. Bd. 5, Arbeiten des Pårtetjåkko-Observatoriums, unter besonderer Leitung einer K. Kommission, Lfg. 1, pub. 1931. p. 1-88, illus., diagrs., tables.) Text in German. *Title tr.:* The meteorological observatory on the Pårtetjåkko.

A history of the observatory is presented. Observations on the summit (2090 m.) began in 1895. A hut for an observatory was built in 1911 on a plateau at 1836 m. Difficulties of maintenance are discussed in detail and the activities, including administration, described year by year. Instructions to observers, cost, determination of coordinates and instrumental equipment are described. Copu seen: CaMAI.

45405. HAMBERG, AXEL, 1863-1933. Editor. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland geleitet von Dr. Axel Hamberg. Stockholm, Centraltryckeriet, 1907-1939. 5 v. Text in German. Title tr.: Natural history investigations of the Sarek Mountains in Swedish Lapland under direction of Dr. Axel Hamberg.

Results of comprehensive field studies carried out from 1895 to 1931 by a group of Scandinavian naturalists in the Sarek Mts. (approx. 67°-67°35' N. 17°-18°15' E.) in Lule Lappmark, the highest (2.123) m.) in Sweden. Publication was sponsored by the Royal Swedish Academy of Sciences at (mainly) government expense. The published results, 37 papers comprising altogether some three thousand pages, were issued in 26 fascicles numbered consecutively as issued during 1907-1939. These papers as listed below (according to volume and part, not fascicle) with titles translated, are abstracted in this Bibliography under their authors' names. A few results projected as papers in the History and topography, and as tables in the Meteorology volume, have not been published, and are not now planned for publication.

Bd. 1. Abt. 1. History and Topography, Lfg. 1 (1926) HAMBERG, A. Building

of huts in the Sarek Mountains.

Abt. 3, Glacier studies, Lfg. 1 (1907) HAMBERG, A. Properties of the snow cover in the mountains of Lapland.

Lfg. 2 (1932) HAMBERG, A. Structure and movement processes in glacier ice and contributions to the morphology of arctic glaciers.

Bd. 2, Abt. 1, Meteorology and geo-physics, Lfg. 1 (1923) KÖHLER, H. Studies on ice deposits from fog on the Pårtetjåkko.

KÖHLER, H. Observations on ion content and potential gradient of the atmosphere on the Pårtetjåkko.

Lfg. 2 (1930) KÖHLER, H. Investigations of cloud formation on the Partetjåkko in August 1928 and an expanded investigation of the droplet groups.

Bd. 3, Botany, Lfg. 1 (1907) NILSON,

B. The lichen vegetation of the Sarek Mountains.

Lfg. 2, 3 (1907, 1910) ARNELL, H. W., and C. JENSEN. The mosses of the Sarek region, I-III.

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Lfg. 4 (1920) TENGWALL, T. Å. The vegetation of the Sarek region, I. Lfg. 5 (1923) STRÖM, K. M. The

alga-flora of the Sarek Mountains.

STRÖM, K. M. Snow algae (cryoplankton) from the Sarek Mountains. Lfg. 6 (1924) HUSTEDT, F. The

Lfg. 6 (1924) HUSTEDT, F. The bacillarian vegetation of the Sarek Mountains.

Lfg. 7 (1925) TENGWALL, T. Å. The vascular plants of the Sarek region. DAHLSTEDT, G. A. H. Hieracia of the Sarek region in Lule Lappmark.

TENGWALL, T. Å. Supplement to the lichen flora of the Sarek region.

Lfg. 8 (1925) TENGWALL, T. Å.
The vegetation of the Sarek region, II.
Bd. 4, Zoology. Lfg. 1 (1907) EKMAN, S. P. Vertebrates of the arctic
and subarctic high mountain zone in
northern Sweden.

Lfg. 2 (1908) EKMAN, S. P. On the specific differentiation between Lemmus lemmus (Linné) and Lemmus obensis (Brants).

ODHNER, N. H. Molluscs of the high mountains of Lapland.

EKMAN, S. P. Ostracoda from the high mountains of northern Sweden.

Lfg. 3 (1909) ROMAN, A. Ichneumonidae from the Sarek Mountains.

Lfg. 4 (1910) TRÄGÅRDH, I. O. H. Acarida from the Sarek Mountains.

Lfg. 5 (1914) WALTER, C. Hydracarina of the northern Swedish high mountains.

ALM, G. O. Ostracoda from the high mountains of northern Sweden, 2. Lfg. 6 (1917) POPPIUS, B. R., and

others. Diptera from the Sarek region. HOFSTEN, N. v. Turbellaria of the high mountains of northern Sweden.

Lfg. 7 (1919) WAHLGREN, E. O. On the alpine and subalpine Collembola fauna of Sweden.

POPPIUS, B. R. Lepidoptera from the Sarek Mountains.

PIGUET, É. Water-dwelling oligochaetes of the north Swedish high mountains.

Lfg. 8 (1923) STEINER, G. Limicole Mermithidae from the Sarek Mountains and Torne Lappmark.

HOFSTEN, N. v. Rotatoria of the high mountains of northern Sweden. Lfg. 9 (1926) JANSSON, C. A. Coleoptera from the Sarek region.

Lfg. 10 (1931) EKBLOM, T. Hemiptera from the Sarek region.

SCHENKEL, E. Arachnids from the Sarek Mountains.

Bd. 5, Studies at Pårtetjåkko Observatories, Líg. 1 (1931) HAMBERG, A. The meteorological observatory on the Pårtetjåkko.

HAMBERG, A. Determination of the influence of the terrestrial horizon on sunshine durations.

Lfg. 2 (1933) HAMBERG, A., and A. JÖNNSON. Meteorological observations on the Pårtetjäkko during the observation year July 1, 1914 to June 30, 1915.

Lfg. 3 (1939) KÖHLER, H. Meteorological observations on the Pårtetjåkko during the observation year July 1, 1915 to June 30, 1916.

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45406. HAMBERG, AXEL, 1863–1933. Resor i Kvikkjokks högfjäll sommaren 1896. (Svenska turistföreningen, Stockholm. Årsskrift, 1897, p. 138–92, 3 illus.) Text in Swedish. *Title tr.:* Travels in the Kvikkjokk mountain region during the summer of 1896.

Topographic, geologic, and glaciologic investigations were carried out in the region north of Kvikkjokk; many ascents were made to determine barometric elevation and extend the triangulation net; plateau, valley, and hanging glaciers were mapped. Day-to-day activities are recounted; problems of supply and Lapp transport are noted as unresolved. In conclusion, summary recommendations and precautions on climbing are offered.

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45407. HAMBERG, AXEL, 1863–1933. Struktur und Bewegungsvorgänge im Gletschereise nebst Beiträgen zur Morphologie der arktischen Gletscher. Stockholm, Centraltryckeriet, 1932. p. 69–124, illus., diagrs., tables. (His: Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 1, Abt. 3, Gletscherkunde, Lfg. 2.) 89 refs. Text in German. Title tr.: Structure and movement processes in glacier ice and contributions to the morphology of arctic glaciers.

Previous investigations and theories on the origin of glacier bands and their relation to glacier movement are examined critically in the light of studies at the regenerated Suphella Glacier in Norway in

1905 and other glaciers. The theory on the formation of blue bands as a result of the refreezing of fractures caused by shearing is disputed on the basis of theoretical considerations. Factors determining the plastic behavior of ice and its relation to banding are examined. The origin of blue bands is attributed to exfoliations resulting from plastic deformations during differential movement and the freezing of water in the foliation plane. The orientation of the blue bands in glaciers of different types is described, and its relation to topography is considered. Temperature conditions in the Sarek Mts. of northern Sweden are compared with those in the Alps and Spitsbergen, and their relation to glacier movement is discussed. Copy seen: CaMAI.

HAMBERG, AXEL, 1863–1933, see also Geologiska föreningen. Mötet den 1 December 1892. 1892. No. 45070.

45408. HAMBURG, SEEWETTER-AMT. Der Wetterbeobachtungsdienst auf den deutschen Fischdampfern. Weather observing service aboard German trawlers. Hamburg, 1955. 24 p., 17 charts. Text in German and English.

"German trawlers have supplied weather data since 1932 except for the war period. Eighty-five ships now have meteorological equipment and trained observers (radio operators) and report to Bremerhaven, Cuxhaven, Hamburg, and Kiel from locations in the North Sea, North Atlantic (to Iceland), and in the Barents Water temperatures, clouds and waves are now recorded and transmitted. Monthly variations in number of observations . . . and number of messages transmitted . . . is not great. Observations from Meerkatze, which takes 3-hourly observations, are discussed. Examples of reports on Jan. 17, July 10, and Dec. 15, 1954 and distribution in each month of 1950 shown on charts."-Meteorological abstracts & bibliography, Mar. 1956. v. 7. no. 3, p. 310. Copy seen: DWB.

45409. HAMELIN, LOUIS-EDMOND. Genre de vie à l'île de Southampton d'après le journal d'un Eskimau. (Cahiers de géographie de Québec, Oct. 1956. Nouvelle série, no. 1, p. 49-53, text map.) 3 refs. Text in French. Summary in English. Title tr.: Way of life on Southampton Island according to the journal of an Eskimo.

Contains geographical observations extracted from a diary of a 25 yr.-old

Eskimo named Opartok, covering Sept. 1926 to Oct. 1927. Observations are presented as those relating to winter (Oct.—May) and to summer (June—Sept.). Work in the home, hunting on land and over the ice, games, and visit to the Hudson's Bay Company post are briefly described. The full text of the diary was translated by A. Thibert (No. 42787).

45410. HAMELIN, LOUIS-EDMOND. Les monuments de cailloux dans le paysage arctique. (Cahiers de géographie de Québec, Oct. 1956. Nouvelle série, no. 1, p. 5–19, 4 illus., table.) 10 refs. Text in French. Summary in English. *Title tr.:* Stone monuments in the arctic land-scape.

Notes ubiquity of stones and pebbles in Canadian arctic landscapes and their importance to local inhabitants. Stone monuments and cairns, found in many regions, are classified according to shape, and their main characteristics described. Physical and human building agents are considered together with the motives of the latter.

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HAMILTON, J. R., see Haist, R. E., and others. Effect . . . cold acclimatization in rats shocked . . . 1956. No. 45386.

**45411. HAMILTON, JOHN, 1827–1897,** and **S. HENSHAW.** A list of some of the catalogues and local lists of North American Coleoptera. (Psyche, Oct., Dec. 1891, Jan. 1892. v. 6, no. 186, p. 160–62; (II) no. 188, p. 188–93; (III) no. 189, p. 205–209.) 142 refs.

Bibliography including some papers dealing with Alaska and northern Canada. Index of localities is appended.

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HAMILTON, L. H., see Horvath, S. M., and others. Metabolic cost of shivering. 1956. No. 45615.

HAMILTON, L. H., see also Horvath, S. M., and others. Reactions . . . nude men . . mild cold exposure. 1956. No. 45616.

HAMILTON, L. H., see also Spurr, G. B., and others. Temperature gradients . . . hypothermic dog. 1956. No. 48156.

45412. HAMILTON, RICHARD A., and others. British North Greenland Expedition, 1952–4: scientific results. (Geographical journal, June 1956. v. 122, pt. 2, p. 203–240, 7 illus., 7 maps (2 fold.),

diagrs., graphs, cross-section, tables.) 21 refs. Other authors: F. R. Brooke, J. D. Peacock, K. Arnold, S. Bowater, C. Bull, and H. Lister.

In six sections, on various phases of the expedition, each written by a par-

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The survey of Dronning Louises Land (76°46′ N. 24°15′ W.) by F. R. Brooke (p. 203–209), deals with triangulation of this region, its connection to existing triangulation of Dove Bugt on the coast, and determination of the height of Krebs Bjerg in the northwest part of Dronning Louises Land. Travel problems, methods, and equipment are described, and some triangulation data are given.

Geology of the Britannia Sø (lake) area, Dronning Louises Land (77°09' N. 23°50' W.), by J. D. Peacock (p. 210–13), is based on field work by the writer and P. J. Wyllie. Geology is described by

regions and a map is presented.

Construction of a topographic map of northeast Dronning Louises Land (scale 1:50,000) from vertical air photography is described by K. Arnold (p. 213–16). Area to be mapped was about 300 sq. mi. Establishment of ground control, plotting of control, and final assembly of map are dealt with. Actual photography, carried out from an R. A. F. Sunderland flying boat, is described by S. Bowater (p. 216–19).

Seismic investigations on the northern part of the Greenland ice sheet, are described by C. Bull (p. 219-25). One of the main projects of the expedition was determination of thickness of the inland ice in the north half of Greenland as had been done in southern Greenland by Expéditions polaires françaises. Methods and results are described; also, briefly, gravity measurements made across the inland ice from Britannia Lake to Thule on the west coast.

Determination of the altitudes of points on the ice sheet by measurement of atmospheric pressure is dealt with by R. A. Hamilton (p. 225-30). Methods are described in some detail, with discussion of errors. Table gives altitudes of the seismic and gravity stations.

The glacier regime in northeast Greenland is discussed by H. Lister (p. 230–37). Two representative glaciers were observed: Admiralty and Britannia Gletscher; methods and results are described. Study indicates that half the net losses of glaciers are compensated by flow from the inland ice, so that glacier recession

is small; also that snow accumulation in northeast Greenland decreased during last half century but has increased during past ten years.

Discussion (p. 238-40) follows the papers. Copy seen: DGS.

45413. HAMILTON, RICHARD A. The measurement of humidity at Britannia Sø 1952-53. [London], May 1956. 12 p. 2 graphs, 6 tables. Mimeographed. Great Britain. Air Ministry. Meteorological Research Committee. M. R. P.

983.)

Description of method used to determine values of relative humidity, vapor pressure, etc., to be published in meteorological tables for Britannia Sø (77°09' N. 23°36' W., altitude 231 m.), main base of the British North Greenland Expedition to Dronning Louises Land. Annual range of temperature was about -40° C. to 16° C. Difficulties were experienced through lack of an absolute instrument for measuring humidities at low temperatures. Instruments used were a dry- and wet-bulb hygrometer, hair hygrograph, and lithium chloride hygrometer. Use of each is described and results given in tables.

Copy seen: DWB.

45414. HAMMARÉN, HJALMAR. Norrskensfotogrammetri i Abisko under Februari och Mars 1922. Stockholm, 1930. 17 p. diagrs., tables, 9 plates incl. 1 fold. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, bd. 6, no. 1.) Text in Swedish. Summary in English. Title tr.: Auroral photogrammetry at Abisko from February to March 1922.

An analysis is presented of auroral photographs obtained in northern Sweden. Data on type, location, and height are given together with frequency height curves. Definite maxima at 106 and 100 km. were observed which agrees well with earlier observations made in Norway. The projection of various auroral points on the earth's surface is mapped.

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45415. HAMMARSKJÖLD, DAG, 1905- Norr om Sulitälma. (Svenska turistföreningen, Stockholm. Årsskrift, 1951, p. 303-319, illus., text map.) Text in Swedish. *Title tr.:* North of Sulitjelma.

The Sulitjelma mountain mass, 1600-1800 m. high, visible from Sarek or Akka, is more rarely visited than Abisko, Kebnekaise, and others. On the Norwegian side, the slope is steep and ice free. On the Swedish side, Sulitjelma slopes gently south and eastward and is ice-crowned. From it can be seen Vestfiorden and the sawtoothed Lofoten ridge. In its flora, climbing, glaciers, tinds, and vistas, Sulitjelma has interest equal to either Sarek or Kebnekaise.

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45416. HAMMEL, HAROLD THEO-DORE, 1921- . Infrared emissivities of some arctic fauna. (Journal of mammalogy, Aug. 1956. v. 37, no. 3, p. 375-78.

illus. table.) 7 refs.

Account of investigation on the total emissivity in the infrared during January for several Alaskan mammals and one bird, the willow ptarmigan. In all the animals, infrared emissivities were identical to a perfect black-body radiator or very nearly so. The study was carried out at the Arctic Aeromedical Laboratory, Ladd Air Force Base, Alaska.

Copy seen: DI.

HAMMEL. HAROLD THEODORE. 1921- , see also Griffin, D. R., and others. The comparative physiology . . . thermal insulation. 1956. No. 45293.

45417. HANCOCK, J. L. Some Tettigian studies. (Entomological news, Dec. 1899, v. 10, no. 10, p. 275-82). 21 refs.

Contains a critical revision of a section of orthopteran tribe Tettigidae, with descriptions of a new genus Allotettix and seven species, of which four are described as new. Tettix granulatus (T. brunneri) occurring on Hudson Bay and in the Mackenzie District, is included.

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45418. HANDL. LEO. Praktische Schnee- und Lawinenkunde. Innsbruck. E. Schumacher, 1955. 56 p. illus. Text Title tr.: Snow and avain German.

lanche manual.

The characteristics of snow, avalanche formation and causative factors, and methods of avoiding and controlling avalanches are treated in detail. The various types of snow and ice, snow-cover formation, snow metamorphism and controlling factors, the density and hardness of various snow types, snow creep, and snow drifting and its effects are described. Weather conditions conducive to avalanching and the causes for the rupture of snow are discussed. Various types of avalanches, their behavior, control measures, including snow fences, windbreaks, and nets are described. A glossary of snow and avalanche terms is appended. Copu seen: DLC.

45419. HANDLEY, CARROLL AL-FRED, 1911- , and R. A. SEIBERT. The biochemistry of tissue trauma: muscle protein. Randolph AFB, Texas. Jan. 1956. 8 p. tables (U. S. Air Force. Air University School of Aviation Medicine; report no. 55-89.) 9 refs.

Rabbit muscle, if solidly frozen by 30 min, exposure to -15° C., showed a decrease of total extractable myosine by one half and, in consequence, a fall in ATPase activity and sulphydryl content. The ratios of ATPase activity to milligrams of N, and of moles of sulphydryl to moles of N increased. Muscle of rabbits exposed to  $0^{\circ}$  and  $-5^{\circ}$  C. for 30 min. showed little damage after 24 hrs.

Copy seen: DNLM.

45420. \*HANDLEY, CHARLES OVER-TON, 1924- . The northernmost nesting of the rough-legged hawk in North America. (Wilson bulletin, Sept. 1956. v. 68, no. 3, p. 246-48, 2 illus.)

Contains a description and photographs of the nest of Buteo lagopus found on July 19, 1949, in the Mould Bay region (76°21' N. 119°28' W.) of Prince Patrick Island. Copy seen: DA.

45421. HANDY, R. L., and others. Application of mechanical stabilization to an arctic beach. Report for period 1 June, 1954 to 1 June, 1955, Ames, Iowa, Jan. 1956. 16 p. 5 illus., text map, diagrs., graphs, 6 tables. (Iowa State College. Iowa Engineering Experiment Station. Project 320-S. Contract Nonr-530(04).) 8 refs. Other authors: D. T. Davidson, I. J. Ward, and C. J. Roy.

Beaches in some arctic areas afford natural summer transportation routes for wheeled vehicles when tundra is impassable. In Pt. Barrow region, sands have low trafficability due to rounded grains and uniform particle size. They may be stabilized by admixing locally available binder materials, though excavation in permafrost, scarcity of clay minerals, etc. present difficulties. Tests in Iowa laboratories indicate that with optimum amounts of tundra clay and ice-rafted beach gravel, the soaked California Bearing Ratio of the com-

<sup>\*</sup>In previous listings, No. 22394, 24075, 35147, 36514 40239, this writer's work was wrongly attributed to his father.

pacted beach material is increased about ten times. Other binders are being investigated for greater stabilization.

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HANDY, R. L., see also Stump, R. W., and others. Properties and geologic occurrence . . . silt deposits . . . Matanuska . . . 1956. No. 48236.

HANDY, R. L., see also Stump, R. W., and others. Property studies . . . Alaskan silts . . . Matanuska . . Big Delta . . . Fairbanks. 1955. No. 48237.

HANDY, R. L., see also Ward, I. J., and others. Mechanical stabilization . . . gravelly sand . . . Barrow . . . 1955. No. 48858.

HANKIN, ROBERT M., see Bal'zak, S. S., and others. Economic geography . . . U. S. S. R. . . . 1952. No. 43857.

HANLON, CYRIL ROLLINS, 1915—, see Willman, V. L., and C. R. Hanlon. The influence of temperature on . . . bleeding . . . 1956. No. 48968.

45422. HANNA, G. DALLAS, 1887— . Land and freshwater mollusks of the arctic slope, Alaska. (Nautilus, July 1956. v. 70, no. 1, p. 4–10, plate 1.) 8 refs.

Contains historical notes and a general description of the arctic slope, i. e. the low, flat plain extending northward from the Brooks Range to the Arctic Ocean, approx. 50,000 sq. mi. in area. Nine species of molluscs are listed with descriptive and critical notes, also data on local distribution, chiefly from the basin of the Kikiakrorak and Colville Rivers.

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45423. HANNELL, F. G. Expedition to northern Norway. (Meteorological magazine, Aug. 1951. v. 80, no. 950, p. 235-36.)

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Note giving some meteorological observations made by the British Schools Exploring Society Expedition of Aug.—Sept. 1950. Main observing station was installed on the Kildetoppen massif at 67°45′ N. 16°05′ E. at 1,650 ft. Eight subsidiary stations were set up between 585 and 3,100 ft. Readings were taken twice daily.

\*\*Copy seen: DWB.\*\*

45424. HANNERZ, DAG. Kort visit i Pessinki. (Fauna och flora, 1956. häfte 3, p. 111–21, illus., map.) 3 refs. Text in Swedish. *Title tr:* A short visit to Pessinki.

Contains an account of a few weeks' bird-watching in June 1954 by the author and four companions in the Pessinki area south of Karesuando (approx. 68°30′ N. 22°20′ E.) in northern Sweden: 43 species are mentioned.

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45425. HANSEN, A. T., and others. Measurement of coronary blood flow and cardiac efficiency in hypothermia by use of radioactive krypton 85. (Scandinavian journal of clinical & laboratory investigation, 1956. v. 8, no. 3, p. 182–88, illus., tables.) 20 refs. Other authors: B. F. Haxholdt, E. Husfeldt, N. A. Lassen, O. Munck, H. R. Sørensen, and K. Winkler.

Contains description of the new method and comparisons (satisfactory) with earlier ones using the bubble flow meter or nitrous oxide. Application of the krypton 85 method at two levels of hypothermia in dogs showed no changes from normal in coronary arterio-venous oxygen difference and in cardiac mechanical efficiency. Coronary blood flow, left ventricular 02-consumption, cardiac output and work and total body 02-uptake showed a decrease to one-third at hypothermia of 28° C. and to one-fourth at such of 23.5° C.

45426. HANSEN, BERNARD LYLE, 1916– . Instrumentation of ice-cap stations; preliminary report on Project 13b. Wilmette, Ill., Apr. 1955. 7 p. illus., diagrs. (U. S. Army. Corps of Engineers. Snow Ice and Permafrost Research Establishment. SIPRE Report 23.)

Instrumentation at sites on the Greenland ice-cap, described and diagrammed, was employed in connection with tubularshaped buildings placed on the snow. Copper resistance thermometers were installed to determine the buildings' effect on subsurface temperatures. A recording bench mark was installed to measure the elevation of 60 points periodically and thus determine differential setting. Building deformation is determined by measuring tube diameter at 13 places and by transit measurements. Special pressure cells were designed and installed to measure snow pressures on the tubes. Copy seen: DLC.

HANSEN, BERNARD LYLE, 1916—, see also Diamond, M., and B. L. Hansen. Use . . . shear vane in snow. 1956. No. 44618.

45427. HANSEN, PAUL MARINUS, 1901-. Cod in West-Greenland coastal waters and offshore banks 1954. (International Council for the Exploration of the Sea. Annales biologiques, 1954. pub. 1956. v. 11, p. 106-113, tables, maps.)

Information and data are presented on distribution of eggs and larvae over the area (60°-71° N.); age and length composition of catches from offshore banks and from coastal waters and fjords, covering the year-classes 1934-1950; distribution of above classes in various areas; effects of trawling on the stock of certain year classes; quality of fish and liver; tagging and recapture activities; migrations, etc. Copy seen: DI.

45428. HANSEN, PAUL MARINUS, 1901- . Om fiskeriundersøgelser i Diskobugten. (Atuagagdliutit: Grønlandsposten, Oct. 18, 1956. Ukiut 96 – iat. nr. 20, p. 19–20.) Text in Danish and Eskimo. Title tr.: On fishery investi-

gations in Disko Bugt.

Fish of potential commercial importance in this area are cod, Greenland halibut, shark, capelin and catfish, also shrimp in quantity. The halibut- and possibly shark-fishing prospects are fairly good; the cod stocks are moving southwards. The fishing of capelin is not considered economic except close to the coast in spring, and catfish only for local consumption: starting undertakings on a commercial scale involve great technical difficulties.

\*\*Copy seen: DLC.\*\*

HANSEN, PAUL MARINUS, 1901-, see also International Commission for NW. Atlantic Fisheries, Annual proceedings . . . 1955-56. 1956. No. 45703,

45429. HANSEN, RALPH, and K. A. LINELL. Strength and uses of fresh and salt water ice. [Washington, D. C.] 1956. iv, 19 p. diagrs., tables. (In: U. S. Office of Naval Operations. The dynamic North, v. 2, no. 12.) 15 refs.

Contains a brief historical review of the use of ice for transportation in the Arctic and a detailed summary of its strength properties and bearing capacity. Factors affecting its strength are discussed: structure, impurities, horizontal stratification, vertical cracks, temperature, and loading rate. Empirical and theoretical load values are presented and graphed.

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45430. HANSON, GEORGE, 1891- . Manganese deposits of Canada. Ottawa, King's Printer, 1932. 120 p. text maps, tables. (Canada. Geological Survey. Economic geology series, no. 12.) Approx. 100 refs.

Includes brief review of Canadian regional geology (including northern areas) with reference to possible manganese deposits; occurrence on the Nastapoka Islands near east coast of Hudson Bay (57° N. 77° W.) is noted (p. 105); also presence of manganese (no description) in silver-lead veins at Keno Hill, Yukon. (p. 120).

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45431. HANSON, HAROLD CARSTEN, 1917—, and others. The geography, birds, and mammals of the Perry River region. Montreal, 1956. 96 p. 31 illus., 4 text maps, graph, 9 tables. (Arctic Institute of North America. Special report, no. 3.) 92 refs. Other authors: P. Queneau and P. Scott.

Scientific results of the authors' expedition to the Perry River (67°42' N. 102°12' W.) in the Mackenzie-Keewatin border region, June 6-Aug. 2, 1949, during which 98 bird skins and 35 mammal skins and skulls were collected. Topographic mapping, collection of rock specimens, meteorological observations were also carried out, and photographs made of the region, its flora and fauna, Topography and drainage, Eskimos. physical geology, weather, ice and snow conditions, the local Kogmiut Eskimo, transportation problems, and vegetation are briefly described. Then follow lists of the 47 species and subspecies of birds seen (including 12 not previously reported by Gavin, Arctic Bibliography, No. 5580) and six species of mammals supplementing Gavin (No. 5581), including a new subspecies of red-backed mouse, Clethrionomys rutilus washburni Hanson. Physical appearance, productivity, behavior, food habits, parasites, populations, and sex ratio are noted for many species, particularly for Ross's goose (Anser rossii Cassin) which was studied in some detail. Appended are lists of rock specimens, fishes, and insects collected. Copy seen: DLC.

HANSON, ROY E., see Crowley, F. A., and R. E. Hanson. Seismic measurements in permafrost . . . 1956. No. 44497.

45432. HANSON, TORE. Är den vanliga näbbmusen "glacial övervintrare" på Norges kust? (Fauna och flora 1956, häfte 1–2, p. 1–9, illus., map.) 9 refs.

Text in Swedish. Summary in English. Title tr.: Did the common shrew "hibernate" on the coast of Norway

during the last ice age?

Contains the results of an investigation carried out by the author, his wife and one companion in summer 1955 on Kvaløya near Hammerfest, and elsewhere in north Norway. The shrew (Sorex araneus, L.) in Scandinavia is considered to be descended from both "hibernating" populations and immigrant populations from the northeast and the south. The species found on Kvaløya, distinct from that on the mainland under identical ecological conditions, is evidence that the shrew "hibernated" in the icefree coastal areas of western and northern Norway. As this mammal has difficulty crossing wide expanses of water, any "hibernating" populations on the islands must survive practically unmixed.

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45433. HANSSON, JAN ERIK, and others. Snöskor vid skogsarbete; en preliminär undersökning över deras användning. (Skogen, Jan. 15, 1956. årg. 43, no. 2, p. 26–29, illus.) 3 refs. Text in Swedish. Other authors: U. Sundberg and N. Lundgren. Title tr.: Snowshoes in forest work, a preliminary investigation of their utility.

Seven snowshoe models, of metal, veneer, and rawhide, with solid and latticed frames, and with various foot bindings and other fittings, were tested in heavy snow in northern Sweden. Tests were made on level, uphill and downhill courses and in actual forest work. The large models with movable foot attachment were found best for crossing terrain. In forest work, the small models, including one developed locally, with fixed foot were more practical. All models are illustrated and dimensions tabulated. Copy seen: DA.

45434. HARANG, LEIV, 1902- . Det internasjonale geofysiske året 1957-58. (Naturen, Bergen, 1956. Årg. 80, nr. 8, p. 480-90, 3 text maps.) Text in Norwegian. *Title tr.*: The International Geophysical Year, 1957-58.

Karl Weyprecht, leader of the 1872–74 Austrian expedition to Franz Joseph Land, proposed the first international polar year which occurred in 1882–83. Its arctic investigations and areas are summarized, as are those of the Second Polar Year, 1932–33. Research of both

eras lacked the advantages of the polar front theory. Highlights of the program for 1957–58 and Norwegian participation in the IGY, are reviewed.

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HARANT, HERVÉ, see Bouisset, L., and others. Action . . . hibernation . . . Trypanosoma equiperdum. 1956. No. 44105.

HARBITZ, GEORG PRAHL, 1871-, see Løchstøer, J. Den norske leidangen. 1951. No. 46420.

HARDENBERGH, ESTHER, see Werner, A. Y., and others. Spontaneous rewarming...hypothermic...dog. 1956. No. 48902.

HARDER, R. ALLAN, see Mavor, G.E., and others. Potassium and the hypothermic heart. 1956. No. 46663.

HARDER, R. ALLAN, see also Mayor, G. E., and others. Potassium effects in hypothermia . . . 1956. No. 46664.

HARDER, R. ALLAN, see also Mayor, G. E., and others. Procaine amide in hypothermia . . . 1956. No. 46665.

45435. HARDY, ROBERT MacDON-ALD, 1906—, and S. THOMSON. Measurement of the shearing strength of muskeg. (In: National Research Council of Canada. Associate Committee on Soil and Snow Mechanics. Proceedings of the Eastern Muskeg Research Meeting, February 22, 1956. Ottawa, Oct. 1956. Technical memorandum, no. 42, p. 16–24, illus., diagrs., table.) Ref.

Three methods for assessing shearing strength characteristics of ordinary soils, and problems in testing muskeg, are described. Adapting the vane tester (measures shearing strength of soils in situ) was investigated, and field tests were made near Mile 253 on the Alaska Highway where muskeg is 12-17 ft. thick. Shearing strength increased directly with depth, but maximum strength was developed only after very substantial deformation in the soil. Results showed use of vane tester is feasible, but additional work is required to establish accuracy of tests and evaluate factors such as the fibrous nature of the material.

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45436. HARE, FREDERICK KENNETH, 1919 . The climate of the American northlands. [Washington, D. C.] 1956. 33 p. maps, tables. (In:

U. S. Office of Naval Operations. The dynamic North, v. 1, no. 3.) 34 refs.

The dynamic and physical climatology of the American Arctic and sub-Arctic are discussed with emphasis on air masses, mean pressure patterns, and temperature regimes. Charted data include mean sealevel pressures for January and July, mean air temperatures in January and July, and the progress of freeze and thaw. Added notes are presented on precipitation, blowing snow, and cloudiness and fog.

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45437. HARE, FREDERICK KENNETH, 1919—. The forest geography of the peninsula of Labrador-Ungava: report on a program of 1 to 1,000,000 aerial survey. (Association of American Geographers. Annals, June 1956. v.

46, no. 2, p. 249-50.)

Abstract of paper presented at the 52nd Annual Meeting of the Association, Montreal, Apr. 1–5, 1956. Original survey by a McGill University group was completed at 1:500,000. Mapping is physiognomic in nature and has confirmed earlier views on structure of boreal vegetation. Survey methods made possible a 500,000 sq. mi. coverage in five years.

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45438. HARE, FREDERICK KEN-NETH, 1919- . McGill's campus at Knob Lake. (McGill news, Autumn 1956, v. 37, no. 4, p. 19, 49-51, 53, illus.)

Contains description of activities at the McGill University subarctic research station at Knob Lake, northern Quebec (54°48′ N. 66°48′ W.). As of Jan. 1956, it has two buildings (one a geophysical laboratory), and garage. Originally a base for field studies, the station now carries out hourly weather observations to aid the airlift to northern radar lines and is one of a network of northern weather stations. Other phases of the scientific program are described briefly; also work of the McGill Arctic Meteorology Research Group in Montreal.

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45439. HARE, FREDERICK KENNETH, 1919—, and R. G. TAYLOR. The position of certain forest boundaries in southern Labrador-Ungava. (Geographical bulletin, 1956. no. 8, p. 51–73, 6 illus., 7 text maps, table.) 11 refs. Summary in French.

Based on program of aerial photographic interpretations of vegetation carried out at McGill University, four physiognomic classes (cover-types) were evolved: close-crown forests, lichen woodland, bog and muskeg, bare rock and scrub. These are discussed for the area approx. 50°-53°30' N. 56°-75° W. and shown on maps, which indicate also proportion of open water (lakes, rivers, etc.) and burned land. The two principal ecological boundaries: the forest/woodland and the inner margin of the "coastal tundra," are determined on the basis of a "purely physiognomic classification of types, a statistical definition, and a wholly quantitative system of representation." The other major boundaries of the peninsula—the northern limits of the woodland zone and of the forest-tundrahave vet to be located.

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HARE, FREDERICK KENNETH, 1919-, see also Bird, J. B., and F. K. Hare. Upland surfaces in Eastern Canada. 1956. No. 44026.

HARE, FREDERICK KENNETH, 1919—, see also Drummond, R. N. and others. Investigations . . . boreal forest of Labrador-Ungava. 1956. No. 44662.

45440. HARKÁNYI, ISTVÁN, and others. Die experimentelle Entblutung des Herzens unter künstlicher Abkühlung. (Zeitschrift für ärztliche Fortbildung, 1956. Jahrg. 50, Heft 11, p. 476-82, illus., tables.) 47 refs. Text in German. Other authors: A. Padányi, G. Káldor, and J. Tóth. Title tr.: Experimental exsanguination of the heart under hypothermia.

Account of experiments with dogs made hypothermic to about 28° C. and subsequently having various blood vessels (v. azygos, vv. cavae, a. pulmonalis, etc.) compressed or ligated. Survival time, incidence of ventricular fibrillation, arterial and venous blood pressure, and ECG were mainly studied. The implications of the experiments for cardiac surgery are discussed.

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45441. HARKÁNYI, ISTVÁN, and others. Künstliche Hypothermie und Kammerfibrillation. (Zentralblatt für Chirurgie, 1956. 81 Jahrg. p. 1375–87, illus., table.) 29 refs. Text in German. Other authors: A. Padányi and I. Rudics. Title tr.: Artificial hypothermia and ventricular fibrillation.

Contains information on the occurrence of ventricular fibrillation, its presumed

causes and the authors' experiences with it. This is followed by description of a fibrillation-defibrillation apparatus of the type Littmann-Takátsy, its working and the favorable results obtained with it in experimental work on dogs.

Copy seen: DNLM.

HARKEMA, REINHARD, 1910—, see Jellison, W. L. and others. An outbreak . . . schistosome dermatitis in Alaska. 1954. No. 45778.

HARLAND, W. P., see Eckenfelder, G. V., and others. Hamilton River survey . . . 1956. No. 44720.

45442. HARLAND, WALTER BRIAN, 1917—, and C. B. WILSON. The Heela Hoek succession in Ny Friesland, Spitsbergen. (Geological magazine, July-Aug. 1956. v. 93, no. 4, p. 265–86, text map, table.) 28 refs.

Contains description of "an apparently continuous and bottomless succession of Hecla Hoek rocks" from this peninsula, Vestspitsbergen (79° N., 17° E.). geosynclinal series of sediments ranges down from at least Upper Cambrian and totals not less than 16,000 m. (approx. 52,000 ft.). "Throughout the succession . . . there is evidence of relatively shallow water sedimentation, and in the lower part of rapid deposition." The succession is compared with other known Hecla Hoek successions from Nordaustlandet, western Vestspitsbergen, and This paper is the result of Bjørnøya. Cambridge University reconnaissance expeditions in 1949, 1951, 1952, 1953, 1954, and 1955. Copy seen: DGS.

45443. HARLAND, WALTER BRIAN, 1917- . Tectonic facies, orientation, sequence, style, and date. (Geological magazine, Mar.-Apr. 1956. v. 93, no. 2, p. 111-20.) 21 refs.

Some essential features of the general tectonic description of a region are outlined. Tectonic style is the produce of facies and orientation in their distinctive sequence, and is assumed to be independent of date. A type of tectonic sequence is outlined from Ny Friesland in Vest-spitsbergen, with a distinct late stage elongation along the fold axes.—From Author's abstract. Copy seen: DGS.

HARLAND, WALTER BRIAN, 1917—, see also Major, H., and others. Svalbard. 1956. No. 46563.

HARMS, JOHN C., see Reed, J. C., and J. C. Harms. Rates . . . tree growth and forest succession . . . Anchorage-Matanuska . . . 1956. No. 47544.

45444. HARP, ELMER, 1913- . An archaeological reconnaissance in the Coronation Gulf region. (Arctic, 1955, pub. 1956. v. 8, no. 4, p. 257-58.)

Description of investigations by the author and R. E. Miller in July-Aug. 1955. Party flew to Coppermine, then made air and ground surveys, and some excavations, in the Coppermine-Bathurst Inlet coastal region and inland around Dismal and Kamut Lakes. Artifacts collected along the coast are modern or relatively recent Eskimo. Interior sites around the lakes suggest greater antiquity.

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**45445. HARP, ELMER, 1913** . Arctic. (American antiquity, July 1956. v. 22, no. 1, p. 95–97.)

Reports about proto-Dorset Eskimo finds on Southampton Island made by Henry B. Collins during the summers of 1954 and 1955. Reconnaissance flights by the writer, July-Aug. 1955, in the Coronation Gulf region of the Northwest Territories are described. Close to 1,000 miles of coastline were surveyed at low altitude and several Eskimo sites containing chipped stone artifacts resembling Yuma, Plainview and Angostura types were discovered near Dismal and Kamut Lakes. Richard S. MacNeish's 1955 excavations at the Firth River site near the Alaskan-Canadian border which yielded a stratigraphic sequence of nine cultures are discussed, and Wendell Oswalt's field work in 1954 at Katmai National Monument and along the Kuskokwim River, Alaska, are mentioned.

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45446. HARP, ELMER, 1913— . Arctic. (American antiquity, Oct. 1956.

v. 22, no. 2, pt. 1, p. 217-18.)

Notes three Danish archeological expeditions: The 1955 excavations by Eigil Knuth of seven paleo- and one neo-Eskimo sites in the Danmarks Fjord region, northeast Greenland, with suggestion of two different migration periods. The 1955 Danish National Museum expedition, headed by Erik Holtved, who continued the 1953 excavations of a midden at Sermemiut in Jakobshavn Isfjord, West Greenland; made lake borings to establish a standard pollen diagram for the Disko Bay area; and

investigated several paleo-Eskimo sites for carbon samples. Jørgen Meldgaard's 1956 search for paleo-Eskimo sites in the Hamilton Inlet area of Labrador.

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HARPER, A. F. A., see Cass, M. H., and others. The induction and control of hypothermia. 1956. No. 44295.

45447. HARPER, FRANCIS, 1886—. Amphibians and reptiles of the Ungava Peninsula. (Biological Society of Washington. Proceedings, Sept. 12, 1956. v. 69, p. 93–103, 2 illus.) 28 refs.

Contains an annotated list of ten species (three salamanders, one toad, one tree-frog, four true frogs, and one snake) recorded in Hudsonian zone of the region (localities listed, p. 94). Bufo terrestris copei and Rana sylvatica cantabrigensis are treated in detail. Copy seen: DLC.

45448. HARPER, FRANCIS, 1886—. The barren ground caribou of Keewatin. Lawrence, Kansas, 1955. 163 p. 28 illus., text map, tables. (Kansas. University. Museum of Natural History. Miscellaneous publication, no. 6.) Approx, 225 refs.

Contains results of author's investigations in the Nueltin Lake region (60° 20' N. 99°30' W.) in 1947. Spring and fall migrations in the Churchill and Nueltin Lake regions, southern limits of winter range, habitats, trails are discussed, with considerations of the influence of weather, food supply and insects on distribution. Man's use and waste of the caribou are described, also ethnological material from caribou products. Relation of the caribou to other mammals, to birds and flies is examined, and the bad results pointed out of introducing reindeer into the caribou range. Data are offered on numerical status, habits, morphology and taxonomy, with tables of body measurements. Following the comprehensive bibliography, is a chronological list of references briefly annotated on barren ground caribou. A useful index to animals other than caribou, and to plants, institutions, authors, etc., is appended.

Copy seen: DSI.

45449. HARPER, FRANCIS, 1886—. The mammals of Keewatin. Lawrence, Kansas, Oct. 1956. 94 p. 12 illus. on 6 plates, text map. (Kansas. University. Museum of Natural History. Mis-

cellaneous publication, no. 12.) 99 refs.

Contains results of author's field investigations, June-Dec. 1947, in the Nueltin Lake region of southwestern Keewatin (60°20' N. 99°30' W.), work supported by the Arctic Institute of North America. Physiography, vegetation, and comparative abundance of species are briefly discussed. Then follow accounts of 34 species with notes on occurrence, physical appearance, ecology, ectoparasites, food, Thirteen other terrestrial mammals recorded from Keewatin are also listed with locality data and authority for the records. A systematic list of mammalian ectoparasites, with host records, from southwestern Keewatin is given.

Copy seen: DSI.

**45450. HARPER, JOHN B.** Arctic voyage. (Nautical magazine, Mar. 1952. v. 167, p. 163–66.)

Contains a popular account of refueling operations conducted by the British tanker Wave Premier with units of the British Navy off Jan Mayen Island in late Feb. and early March. Some of the incidents resulting from the unfavorable weather are described briefly.

Copy seen: DLC.

45451. HARRER, HEINRICH. Alaska, drei Erstbesteigungen. (Polarforschung, 1954, pub. 1956. Bd. 3, Heft 1–2, Jahrg. 24, p. 281–82.) Text in German. Title tr.: Alaska, three first ascents.

Contains brief descriptions of the conquest of three hitherto unclimbed mountains in Alaska during 1954. Mt. Drum (3,750 m.) was ascended on June 7; Mt. Deborah (4,000 m.) on June 19, and Mt. Hunter (4,680 m.) on July 5. In each case, the author and two companions were flown to a suitable starting point by bushplane.

Copy seen: DLC.

45452. HARRING, HARRY K. A revision of the rotatorian genera *Lepadella* and *Lopocharis* with descriptions of five new species. (U. S. National Museum. Proceedings, Dec. 21, 1916. v. 51, p. 527-68, plates 89-97.)

Contains a discussion of the genera, keys to the species and descriptions of 23, with synonyms, references, measurements and data on distribution. Included (p. 550-554) are Lepadella borealis n. sp. (St. Paul Island), and L. ehrenbergii, collected near the Alaska-Canada boundary (68° N. 141° W.)

Copy seen: DLC.

**45453. HARRINGTON, JOHN P.** The word for seal (Pinnipedia) in various languages. (Washington Academy of Sciences. Journal, Apr. 15, 1947. v. 37,

no. 4, p. 109-111.)

Includes notes on Aleut names which "are age-sex descriptions or are derived from Russian, with one sole exception, lakúoax, the name of the fur seal itself." The names are given also in German, Danish-Norwegian, old Icelandic, Irish, Greek, Latin and Russian.

Copy seen: DLC.

45454. HARRINGTON, LYN, and R. HARRINGTON. The Mackenzie Highway leads down north. (Canadian geographical journal, Aug. 1956. v.53, no. 2, p. 44-51, 11 illus., text map.)

Brief descriptive text and photographs on the 390-mi. highway from Grimshaw, Alberta, to Hay River on Great Slave Lake, completed in 1949. From Hay River in summer, barges carry supplies to Yellowknife on the north shore of the lake. In winter, cars, trucks, and snowmobiles travel the lake ice between the two towns.

\*Copy seen: DGS.\*

45455. HARRINGTON, RICHARD, and E. WEYER, Jr. Walrus hunt. (Natural history, Jan. 1956. v. 65, no. 1, p. 28–32,

11 illus.)

Contains photographs and description of the annual walrus hunt of the Iglulik Eskimos: killing of the animal by harpoon, hauling of the carcass, etc. The hunting techniques of these people living on Igloolik Island, some 250 miles from Repulse Bay, offer "brilliant examples of the ingenious use of the extremely limited materials," notes Weyer.

Copy seen: DLC.

HARRINGTON, RICHARD, see also Harrington, L., and R. Harrington. The Mackenzie Highway . . . 1956. No. 45454.

HARRIS, CHAUNCY DENNISON, 1914—, see Bal'zak, S. S., and others. Economic geography . . . U. S. S. R. . . . 1952. No. 43857.

45456. HARRISON, ARTHUR PENNOYER, 1922-, and R. E. CERRONI. Fallacy of "crushing death" in frozen bacterial suspensions. (Society for Experimental Biology and Medicine. Proceedings, Apr. 1956. v. 91, no. 4, p. 577-79, illus.) 10 refs.

Account of experiments with four kinds of bacteria submitted to successive freezing or vigorous shaking with beads. No correlation was found between the physical strength of cells and their susceptibility to freezing injury. It is therefore improbable that the lethal factor in freezing-thawing bacteria is physical.

Copy seen: DLC.

45457. HARRISON, JAMES MER-RITT, 1915- . Prospecting for iron ore in Canada. (Canadian mining journal, May 1956. v. 77, no. 5, p. 64-66, 3 illus.)

Six main types of iron ore deposits are described, two in subarctic regions; the best of the Lake Superior type deposits are those in Precambrian rocks at Knob Lake, northern Quebec-Labrador. The deposits (goethite and hematite) are trough-shaped, shallow, and in localities of complex structure. The ore has been derived from the enclosing iron formation by some process that removed silica and left iron oxide as a residual enrichment, Colors of weathered ore and appearance of surrounding rocks are described. Prospecting methods are noted. Deposits of the taconite type, low-grade magnetite iron-formation, are known especially from Ungava Peninsula and eastern Hudson Bay (Belcher Islands), but not their commercial possibilities. Copy seen: DGS.

45458. HÁRSING, LÁSZLÓ, and others. Hypothermia hatása az ischaemiás veseelvaltozásokra. (Kiserletes orvostudomány, 1956. évfolyam 8, füzet 1, p. 85–92, tables.) Text in Hungarian. Summaries in Russian and German. Other authors: H. Jellinek, G. Köver, K. László, P. Véghelyi, and S. Fonyódi. Title tr.: Effect of hypothermia on ischemic changes of the kidney.

Closing of the renal aorta in hypothermic dogs for a period of four hours caused only transient azotemia in one out of six dogs and a rise in residual N in one animal; conditions were normal again fourteen days postoperatively. In non-chilled controls, only one out of six survived.

\*\*Copy seen: DNLM.\*\*

HÁRSING, LÁSZLÓ, see also Véghelyi, P., and L. Hársing. Nierenfunktion und Hypothermie. 1955. No. 48707.

45459. HART, JACKSON SANFORD, 1916—, and others. Cold acclimation and the electromyogram of unanesthetized rats. (Journal of applied physiology, Nov. 1956. v. 9, no. 3, p. 404–408, illus., table.) 6 refs. Other authors: O. Héroux and F.

Depocas.

Cold-acclimated rats showed no shivering at  $+6^{\circ}$  C. in contrast to warm-adapted animals; the rise in metabolism in cold-adapted animals, observed after their transfer from 30° to 6° C., is therefore attributed to chemical thermogenesis. During cold acclimatization shivering at  $-6^{\circ}$  C. remained high for at least 5 wks.

\*\*Copy seen: DNLM.\*\*

45460. HART, JACKSON SANFORD, 1916—, and O. HÉROUX. Utilization of body reserves during exposure of mice to low temperatures. (Canadian journal of biochemistry and physiology, May 1956. v. 34, no. 3, p. 414–21, illus., tables.) 20 refs. Contribution from Division of Applied Biology, National Research Laboratories, Ottawa, issued as N. R. C. No. 3898.

Mice acclimated to 6° C. showed a greater weight and water loss when exposed to freezing temperatures than controls acclimated to 23° C. Fat was the major tissue reserve utilized under these conditions, accounting for 85–89 percent of the total calories, most of the remainder being supplied by protein. There was also a reduction of the heat of combustion of the fat at freezing temperatures, signifying a change in its chemical composition.

HART, JACKSON SANFORD, 1916—, see also Deb, C., and J. S. Hart. Hematological and body fluid adjustments... acclimation to a cold ... 1956. No. 44568.

Copy seen: DLC.

HART, JACKSON SANFORD, 1916—, see also Héroux, O., and others. Metabolism and muscle activity . . . rats . . . cold. 1956. No. 45534.

45461. HARTESVELDT, RICHARD J. The glacial concept is born. (Natural history, Feb. 1956. v. 65, no. 2, p. 98-

101+, illus., ports.)

Contains a review of scientific theories and opinions on icebergs and glacial drift; and the development of the glacial theory promoted by J. de Charpentier, L. Agassiz and finally by J. D. Dana in his Manual of geology, 1880. At present, the ice age is considered as an era, when continental masses of ice covered nearly a third of the earth's land surface and greatly modified its climate.

Copy seen: DLC.

HARTMAN, D. F., see U. S. Air Force. Air Weather Service. Studies . . . forecasting; Coral Harbor . . . 1944. No. 48524.

45462. HARTMAN, OLGA, 1900—. Nomenclatorial changes involving types of polychaetous annelids of the family Nereidae in the United States National Museum. (Washington Academy of Sciences. Journal, Jan. 15, 1938. v. 28, no. 1, p. 13–15.)

Includes: Ceratonereis alaskensis (revised name C. paucidentata) and Nereis paucidentata from Alaska (revised name Ceratonereis).

Copy seen: DLC.

45463. HARTMAN, OLGA, 1900—. Polychaetous annelids erected by Treadwell, 1891 to 1948, together with a brie chronology. (American Museum of National History, New York. Bulletin, Apr. 23, 1956. v. 109, art. 2, p. 239–310, plate 21 (port.)) 227 refs. "Contrib. no. 162 of the Allan Hancock Foundation, Los Angeles."

Contains an annotated alphabetical list of 324 annelids (Treadwell), followed by an alphabetical list of 266 valid species with synonyms and a systematic discussion of valid forms. Lumbrineris similabris (Alaska waters), Asabellides sibirica (Nash Harbor, Alaska and Hudson Bay) and Ampharete arctica (Bering Strait) are included.

Copy seen: DLC.

HARTOG, J. M., see Robin, G. de Q., and others. The future . . . glaciology . . . 1956. No. 47616.

**45464.** HARTSHORN, JOSEPH H. Glaciological studies from Thule to Inglefield Land. (*In:* U. S. Army. Transportation Corps. Final report; Operation Ice Cap 1953, *pub.* 1954. p. 209–265, illus., graphs, diagrs.)

The results of investigations during 53 days on the physical characteristics of snow and ice as they affect trafficability on the icecap and in the marginal area at Inglefield Land are reported in detail; data are graphed; ice profiles and maps are presented showing the surface features of the ice margin and suitability of various areas for weasel operations. Measurements on the density, temperature, hardness, and stratigraphy of snow were made in a series of 16 pits varying from 1.49–3.57 m. in depth; 23 rammsonde profiles were taken; and the type of snow, its surface characteristics and

forms were observed. Snow- and icesurface phenomena and the most important feature in each pit are described. The characteristics of various trafficability zones on the icecap and near Inglefield Land are examined individually, and data on the effect of traffic on snow are graphed. The major accomplishment was the discovery of a smooth gentle descent from the icecap to Inglefield Land, the route named Easy Trail. This approach is believed to be suitable for all types of tracked equipment and usable at most times of the year.

Copy seen: CaMAI.

45465. HARVEY, RODNEY BRYCE, 1922- • Function of blood perfused dog kidney at low temperature. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 89.)

"Cooling the isolated kidney to 5° C. resulted in large changes in urine composition and small changes in urine flow and blood flow." Upon rewarming the urine composition in the isolated kidney returned to about that of the perfusor.

Copy seen: DLC.

45466. HARWOOD, T. A. Geology and physiography of the arctic region of north continental America and Greenland. Ottawa, Nov. 1955. 31 p. 7 illus., 5 text maps. (Canada. Defence Research Board. Arctic report no. 1/55.) 29 refs.

An outline of geological and geomorphic features of the Northwest Territories (including arctic islands), Yukon, northern Quebec-Labrador, Alaska, and Greenland. General geology, the physiographic provinces (ten); continental glaciation, its limits and effect on the topography; marine and lacustrine submergence of large areas in post-glacial time, subsequent uplift and raised strandlines are treated in turn. Special emphasis is given to permafrost, including origin and distribution (map); its characteristic features are examined, and associated phenomena, solifluction, structural soils, frostmounds, etc., described. Climatic changes in post-glacial times are Copy seen: CaOGB.

HASEGAWA, YOSHIHARU, see Yoshii, N., and others. Effects of hypothermia . . . electrical activity . . . brain . . . 1955. No. 49025.

HASKELL, B. P., see U. S. Naval Civil Engineering Research and Evaluation Lab. Snow-removal operations . . . 1953. No. 48628.

HASKELL, B. P., see also U. S. Naval Civil Engineering Research & Evaluation Lab. Snow-removal operations . . . 1953-54. 1954. No. 48629.

HASLAM, SYLVIA, see Williams, P. J., and others. Preliminary report . . . solifluction and patterned ground . . . Norway. 1956. No. 48963.

45467. HASSMANN, HEINRICH.
Erdől in der Sowjetunion; Geschichte,
Gebiete, Probleme. Hamburg, Industrieverlag von Hernhaussen, 1951. 176
p. tables, graph, maps. Refs. Text in
German. Title tr: Oil in the Soviet
Union; history, regions, problems.
Translated into English by A. M.
Leeston, 1953 (copy in DLC).

Includes (p. 119-21) account of the Ukhta-Pechora oil region: location, discovery, exploitation and some selected approximate statistics on output. The oil fields are enumerated (sketch map), and the course traced of the natural gas pipeline linking Izhma with Molotov (now Perm.). Neighboring natural gas fields, the Ukhta refinery and the Pechora railroad are mentioned briefly. The Sakhalin oil fields are similarly treated (p. 124-27) with annual production tabulated for 1921-1950. Copy seen: DLC.

HASTINGS, JERROLD L., see U. S. Air Force. Air Weather Service. History . . . 58th Weather Reconnaissance Squadron . . . 1954. No. 48523.

45468. HATTERSLEY-SMITH, GEOF-FREY F. Ellesmere Island 1954. [Ottawa, 1955?] [3] p. illus. 3 refs.

Contains brief survey of scientific work by the four-man Ellesmere Ice Shelf Expedition, similar to No. 40302. Copy seen: CaMAI.

**45469. HATTERSLEY-SMITH, GEOF-FREY F.** Northern Ellesmere Island. (Geographical journal, Mar. 1956, v. 122, pt. 1, p. 13–24, 6 illus., text map.) 32 refs.

Contains brief history of exploration of this region and account of discovery and investigation of the ice islands. Then follows an account of the Elesmere Ice Shelf Expeditions of Apr.—Aug. 1953 and Apr.—Sept. 1954, led by the writer. In 1953, he and R. G. Blackadar made two trips westward along the north coast to the Cape Columbia region, studying geology and the ice shelf; also trip to Cape Sheridan and Floeberg Beach and inland up Wood River to the United

States Range. In 1954, the writer, R. L. Christie, A. P. Crary, and E. W. Marshall carried out geological, glaciological, and oceanographic work based on Ward Hunt Island, making several trips along the coast. On both expeditions, cairns from former expeditions were visited and relics brought back.

Copy seen: DGS.

45470. HAUFE, W. O., and L. BURGESS. Development of Aedes (Diptera: Culicidae) at Fort Churchill, Manitoba, and prediction of dates of emergence. (Ecology, July 1956. v. 37, no. 3, p. 500–519, illus., tables.) 36 refs.

A mathematical analysis of growth and development of the common local mosquitoes based on a three-year study. Formulae for predicting emergence are also suggested. Differences in development-thresholds between forest and tundra forms were noted, as well as differences in development-rate between smaller and larger forms, and, in one species, between the sexes.

Copy seen: DA.

**45471.** HAUG, ARNE. Determination of viscosity of alginate solutions. Oslo, 1955. 23 p., 15 diagrs. (Norsk institutt for tang- og tareforskning. Report no. 8.) 39 refs. Summary in Norwegian.

Development of a method suitable for routine work is discussed. Plants used in the experimentation were collected in Lofoten, Norway in 1951.

Copy seen: DA.

45472. HAUG, ARNE, and A. JENSEN. Seasonal variations in the chemical composition of Alaria esculenta, Laminaria saccharina, Laminaria hyperborea, and Laminaria digitata from northern Norway. Oslo, 1954. 14 p., 20 diagrs. (Norsk institutt for tang- og tareforskning, Report no. 4.) 19 refs. Summary in Norwegian.

Variations in chemical composition of marine algae through the year were investigated in collections of samples taken monthly in Lofoten, Norway. Ash, iodine, alginic acid, laminarin, mannitol, protein, and other soluble substances and fiber were investigated. The monthly rise and fall of substances investigated is graphically presented. Composition is related to seasonal condition of the plant. Copy seen: DA.

HAUG, ARNE, see also Baardseth, E., and A. Haug. Individual variation . . .

constituents in brown algae . . . 1953. No. 43791.

HAUG, ARNE, see also Jensen, A. and others. The quantitative determination of alginic acid. 1955. No. 45786.

HAUGAARD, ERIK, see Rasmussen, K. J. V. Five Eskimo poems. 1956. No. 47521.

45473. HAURWITZ, BERNHARD, 1905— . The geographical distribution of the solar semidiurnal pressure oscillation. New York, N. Y., New York University Press, Dec. 1956. vii, 36 p. diagrs., maps, tables. (New York University. College of Engineering. Meteorological papers, v. 2, no. 5.) 10 refs.

Data from 296 stations, including many in the north and south polar areas, are used to analyze the mean annual surface pressure oscillation. This represents an extension of Simpson's study in 1918 and includes particularly important new data from high northerly latitudes. Mathematical expressions are developed for the migrating and the standing oscillation as functions of longitude and latitude. The amplitude of the migrating oscillation decreases from the equator to the poles where it vanishes. The amplitude of the standing oscillation is considerably smaller and thus dominant only in polar latitudes. Copy seen: DLC.

45474. HAVNØ, EDVARD J. Havhesten, Fulmaris glacialis. (Naturen, Sept. 1926. Årg. 50, nr. 9, p. 287.) Text in Norwegian. Title tr.: The arctic petrel.

In Finnmark, where this observer had never before seen the arctic petrel, he came upon an assemblage of them estimated at 30-50 thousand birds, at Vardø in May.

Copy seen: DLC.

45475. HAWTHORNE, RANDOLPH. Engine starts in minutes at -65 deg. F. (Aviation age, Dec. 1956. v. 26, no. 6, p. 48-51, illus., diagrs.)

Two new systems designed to eliminate expensive preheating for aircraft operations in the Arctic are described. A dearating oil system provides a reservoir of engine oil by automatically supplying diluted oil until heat by the engine rejected can be used to raise the oil temperature. The fuel priming system will raise fuel temperatures from  $-65^{\circ}$  F. to over 200° F. in two minutes.

Copy seen: DLC.

HAXHOLDT, B. F., see Hensen, A. T., and others. Measurement of coronary blood flow . . . krypton 85. 1956. No. 45425.

45476. HAY, R. F. M. Air temperatures during snowfall at Ocean Weather Station I. (Meteorological magazine, Apr. 1956. v. 85, no. 1006, p. 107–110, 3 tables.) 2 refs.

"In connection with capsizing of two trawlers north of Iceland on Jan. 26, 1955, through accumulation of ice on their rigging, statistics of temperature at which snow, sleet (i. e. snow+rain) and hail fell at station I (59° N. 19° W.) were extracted, with Shawbury [England] for comparison. Mean temperatures of snow and sleet at I were 36.0 and 39.3° F., at Shawbury 31.1 and 35.1° F. Surface temperature on such occasions was 2–5° F. higher at I than at Shawbury. Diurnal variation is also discussed."—Meteorological abstracts & bibliography, Sept. 1956. v. 7, no. 9, p. 1089.

Copy seen: DWB.

45477. HAY, R. F. M. Five-year means of meteorological observations made at the ocean weather stations I and J, 1948-52. (Marine observer, Apr. 1956. v. 26, no. 172, p. 97-107, tables.)

Contains discussion and tabulation of monthly mean data (1948–1952) for the principal meteorological elements observed aboard weather ships stationed at assumed mean positions of 59½° N. 19½° W. and 53° N. 19½° W. Data are given for wind, pressure, temperature, precipitation and visibility. Diurnal variations of certain of the elements are also discussed. Copy seen: DLC.

45478. HAY, R. F. M. Ice accumulation upon trawlers in northern waters. (Meteorological magazine, Aug. 1956. v. 85, no. 1010, p. 225–29, table.) 5 refs.

Loss of the British trawlers Lorella and Roderigo in Denmark Strait (67°30′ N. 21° W.) on Jan. 26, 1955 due to icing is reviewed. Air and sea temperatures are estimated, and physical processes which might contribute are considered, viz. impact of supercooled droplets of fog, drizzle or rain; accumulation of snowfall; freezing of sea spray. Rates of ice accumulation are calculated. On the Roderigo 50 tons or more accumulated in about 24 hrs. The "icing-up" hazard is increased for a vessel going north in the Denmark Strait and Bjørnøya areas and anywhere near the limit of

ice, as steep horizontal temperature gradients exist (about  $1^{\circ}$  F. each 20 nautical miles). Icing-up from freezing of droplets on impact will be twice as fast at  $21^{\circ}$  F. as at  $24.8^{\circ}$  F.

Copy seen: DWB.

**45479. HAY, R. F. M.** Meteorological aspects of the loss of *Lorella* and *Roderigo* affecting the operation of trawlers to north of Iceland in winter. (Marine observer, Apr. 1956. v. 26, no. 172, p. 89–94, 6 illus., 2 text charts.) 2 refs.

The trawlers capsized in Denmark Strait with some 50 tons of ice on decks and rigging from spray, etc. in an E-NE gale. Temperature was unusually low Synoptic charts are given. Photograph taken from the fishery research vessel Ernest Holt shows heavy accumulation of ice. Instructions for avoiding this risk are given; and appeal made for synoptic observations from trawlers in the Arctic. Copy seen: DLC.

HAYASHI, T., see Nei, T., and others. Protective . . . winter clothes . . . skin temperature . . . cold. 1956. No. 46972.

HAYES, F. NEWTON, see Lushbaugh, C. C., and others. The production of poikilothermia . . . 1956. No. 46497.

45480. HAYMAN, CHARLES R. Chronic disease program for children expanded. (Alaska's health, Feb. 1956. v. 13, p. 1–2, illus.)

Information on expansion which began in Feb. 1955 in two main directions: (1) provision of special consultation services by the Alaska Dept. of Health for private physicians and those of the Alaska Native Health Service; and (2) inclusion of more illnesses covered by the program. Both native and non-native are eligible for treatment which is free when required.

\*\*Copy seen: DNLM.\*\*

HAYNES, BENARTHUR CASTLE, 1909–1954, see Pettersen S., and others. Meteorology . . . Arctic. 1956. No. 47336.

HEAGY, F. C., see Nicholls, D., and others. Phosphorus metabolism . . . adrenal gland . . . rat . . . cold environment . . . 1956. No. 47009.

45481. HEASTIE, H. Average height of the standard isobaric surfaces over the north polar regions in January. (Meteorological magazine, Dec. 1956. v. 85, no. 1014, p. 368–72, 3 text charts.) 5 refs.

Contains circumpolar charts for average 500-, 200-, and 100-mb. contour heights for Jan. 1949–1953, with brief discussion of data sources and method of construction. Charts are also being planned for Apr., July, and Oct. to show full seasonal changes.

Copy seen: DN-HO.

45482. HEBARD, MORGAN, 1887—. Notes on North American Orthoptera of the arctic-alpine zone. (Entomological news, Jan. 1936. v. 47, no. 1, p. 13–15.)

Contains a general discussion of the response of species to an arctic-alpine environment. The ovoviviparity which occurs in certain arctic butterflies indicates that speeding-up of normal growth occurs even in the egg stage of such insects. In adults, diffusion of the normal color pattern, or darkening, the depauperation, increase in robustness and accentuation of irregularities in contour may well be attributed to the unusually low temperatures. In some cases when a transition from normal to boreal type is confined to a comparatively narrow area, the geographical races should be recognized. Copy seen: DA.

45483. HEBARD, MORGAN, 1887—. Notes on the group Gomphoceri and a key to its genera, including one new genus; Orthoptera, Acrididae, Acridinae. (Entomological news, July, Oct. 1935. v. 46, no. 7-8, p. 184-88; p. 204-208.)

Includes critical notes on Aeropedellus clavatus clavatus from Kenai Peninsula, McKinley Park and Norton Sound, Alaska, also a description of A. variegalus arcticus n. subsp. from Malcolm River, International Boundary, Alaska, (Aug. 8, 1912).

Copy seen: DA.

45484. HECK, NICHOLAS HUNTER, 1882- . Some unusual submarine features in the North Pacific Ocean. (Washington Academy of Sciences. Journal, Mar. 4, 1927. v. 17, no. 5, p. 127-28.)

Abstract: a submarine crater and pinnacle rocks off Southeast Alaska are noted; the Yakutat Bay earthquake of 1899 was accompanied by a 50 ft. vertical change; volcanic origin is indicated for Besboro Island in Bristol Bay and for Bogoslov; the Aleutian Trench and its association with earthquake epicentres are described.

\*\*Copy seen: DLC.\*\*

45485. HEDGPETH, JOEL WALKER, 1911- . The Pycnogonida of the western North Atlantic and the Caribbean. (U. S. National Museum. Proceedings, Mar. 8, 1948. v. 97, no. 3216, p. 157–342, illus. 4–53, fold. map, text map.) 133 refs

Contains discussion of classification. zoogeography (tables 1-2) and systematics of sea spiders, keys to the genera and species and a systematic list of about 60 species, with synonyms, descriptions of a new genus and nine new species. measurements, records of localities and stations and data on geographic distribution. Many species native to northern Atlantic and Greenland waters are included. Dredging stations of the Albatross, 1883-87, and of about 50 various North Atlantic and arctic expeditions since 1869 are tabulated, and collected pycnogonids listed (p. 291-335) in appendix. Copy seen: DLC.

45486. HEDGPETH, JOEL WALKER, 1911—. Report on the Pycnogonida collected by the Albatross in Japanese waters in 1900 and 1906. (U. S. National Museum. Proceedings, Mar. 19, 1949. v. 98, no. 3231, p. 223–321, illus. 18–51.) 87 refs.

Contains distributional data including Bering Sea, statistical comments on the Albatross collection of 1906, and the Siboga, 1899–1900; a systematic discussion with keys to the species, synonyms, descriptions of 18 new species, also critical notes and distributional data on about 50 others. Albatross stations, 1900 and 1906 and localities in Siberian waters (Japanese, Okhotsk and Bering Seas) are tabulated in appendix. At least ten species are recorded in Bering Sea and one in Okhotsk Sea.

Copy seen: DLC.

45487. HEDLA, LENORE. Agriculture in Alaska. College, Sept. 1956. 16 p. illus. tables, map. (A joint publication of the Alaska, Dept. of Agriculture, Circular 1, revised, the University of Alaska Agricultural Experimental Station. Bulletin 22, and the U. S. Dept. of Agriculture.) New edition of a text originally pub. in 1917.

Information is presented on the scope and recent growth of Alaskan agriculture; climate; agriculture in the Matanuska-Susitna valleys, Tanana valley, Kenai Peninsula, Southeast Alaska, Kodiak. Pests and diseases, etc., are noted. Functions of agencies serving farmers and settlers are stated.

Copy seen: DA.

45488. HEGNAUER, ALBERT HENRY, 1900—, and B. G. COVINO. Myocardial irritability in experimental immersion hypothermia. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 327–54, illus. tables.) 33 refs.

A review of studies on dogs. An analysis of conditions and character of hypothermic death is made, and is followed by discussion of ventricular excitability as affected by hypothermia and pH; the latter two as seen in the ECG; arterial and coronary venous electrolyte levels and differences and their role in the events during hypothermia; the effects of calcium infusions on fibrillation. A lengthy discussion following the paper, and covering blood pH during hypothermia and ways of changing it, the effects of circulatory occlusion, of procaine block, etc., is also reported (p. 340-54).

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45489. HEGNAUER, ALBERT HENRY, 1900-, and B. G. COVINO. Reappraisal of ventricular threshholds in hypothermia. (American journal of physiology, Sept. 1956. v. 186, no. 3, p. 511-12.) 5 refs.

Data presented in the writers' Excitability cycle of the ventricle in hypothermia and Ventricular excitability cycle, its modification by pH and hypothermia (No. 39370, 40318) were obtained by a method now recognized as inadequate. The conclusions based on this work are therefore invalid. As reinvestigated, the threshhold problem shows results only slightly deviating from the normal.

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HEGNAUER, ALBERT HENRY, see also Covino, B. G., and A. H. Hegnauer. Electrolytes and pH changes . . . 1955. No. 44480.

45490. HEGSTED, DAVID MARK, 1914-, and others. The effect of low temperature and dietary calcium upon magnesium requirement. (Journal of nutrition, Feb. 1956. v. 58, no. 2, p. 175-88, illus. table.) 19 refs. Other authors: J. J. Vitale and H. McGrath.

Account of experiments with weanling rats kept at 55° F. and at 78° F. In the first case, magnesium requirements to maintain equal growth were about four times higher than in the control group. The difference in the amount required for

maximum gain was about twofold. High calcium diet was detrimental at low magnesium intake and in some experiments it accentuated cold injury.

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45491. HEIBERG, AXEL. Hvorledes udnyttes vor skogbestand paa bedste maade i nationaløkonomisk henseende. (Tidsskrift for skogbrug, July 1909. Aarg. 17, nr. 7, p. 181–86.) Text in Norwegian. *Title tr.:* What is the best method of utilizing the forest stand in the interest of national economy?

Rational development of the country raises the question of divided interests of northern Norwegians who fish, farm, and work in forest intermittently. Regulation of forest activities requires large stands.

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45492. HEIBERG, AXEL, and others. Til Det kgl. landbrugsdepartementet. (Tidsskrift for skogbrug, Oct. 1909. Aarg. 17, nr. 10, p. 248-50.) Text in Norwegian. Other authors: O. Nergård and E. Ringnes. Title tr.: The Department of Agriculture.

In the report of the forestry division, budget figures for the various forestry departments indicate that funds for Nordland are among the highest because of difficulty of securing workers.

Copy seen. DA.

45493. HEINÄNEN, VIKTOR LEONARD. Altes und Neues über Malacodea regelaria Tgstr.; Lep. Geometridae. (Suomen hyönteistieteellinen aikakauskirja, 1950. v. 16, no. 4, p. 188–200, 10 illus., text map.) 15 refs. Text in German. Title tr.: Old and new information on Malacodea regelaria Tgstr.; Lep., Geometridae.

Reviews all data on the taxonomy, biology and distribution of this geometrid, which occurs in Finnish and Swedish Lapland also in the Pechora River basin of northern U. S. S. R.

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HEINIS, FRÉDÉRIC, see Menzi-Biland, A. Der Anteil der Schweizer an der Erforschung Grönlands I . . . 1956. No. 46714.

45494. HEINRICH, CARL, 1880 - . North American Eucosminae, notes and new species; Lepidoptera. (Washington Academy of Sciences. Journal, Oct. 4, 1924. v. 14, no. 16, p. 385-93.)

Seven new species and four new varieties are described, adding two described species to the faunal list, reducing two to varieties, sinking two as synonyms, and transferring the general position of three others. Gypsonoma parryana from Alaska, and G. nebulosana from Labrador (Strawberry Harbor and Hopedale) are included. Copy seen: DLC.

45495. HEINRICH, CARL, 1880—. Revision of the North American moths of the subfamilies Laspeyresiinae and Olethreutinae. Washington, D. C., 1926. v, 216 p. 2 illus., 76 plates. (U. S. National Museum. Bulletin 132.)

Historical review, classification, characters of the subfamilies are given, with note of larval habits and economic importance, a comparative table of structural characters, keys to the genera and species, and phylogenetic tree. Systematic list is presented of 35 genera, 223 species and nine varieties, of which 16 genera, 34 species and three varieties are described as new. Ten species are recorded in Alaska, Greenland and northern Canada, among them: Aphania strigosa n. sp. from Dawson.

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45496. HEINRICH, GERD H. Holarctic element among the Ichneumoniae of Canada. (Canadian entomologist, Nov. 1956. v. 88, no. 11, p. 647–52.)

Contains descriptions of the palaearctic genera and of eight species and subspecies not hitherto recorded from America: one species and two subspecies are new. Ichneumon computatorius nearctivernus n. ssp. (Alaska, Northwest Territories, northern Ontario), Hybophorellus injucundus nearcticus n. ssp. (NWT.), Trogus lapidator (Yukon Territory) and Ctenamblyteles homocerus (Alaska, Yukon and NWT.), are included.

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45497. HEINRICH, GERD H. Ichneumon lariae Curtis; a critical study on this arctic species and its closely related forms. (Canadian entomologist, Dec. 1956. v.

88, no. 12, p. 686-91.)

This ichneumon fly is discussed, and a redescription offered on the basis of four specimens from Greenland (Sønderstrøm Air Base), two from Baffin Island (Cape Dorset and Nettiling Lake), and one from Southampton Island (Coral Harbour). Three new subspecies are described: subarcticus n. ssp. (Northwest Territories, northern Manitoba and northern Quebec), labradoris n. ssp. (Hopedale, Labrador, Newfoundland), and asiaticus n. ssp.

(Kharaulakh khrebet in Lena River basin). *Ichneumon alpestriformis*, a related species, is recorded from Alaska (St. Paul and St. Matthew Islands).

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**45498. HEINRICH, GERD H.** A report on some North American arctic and subarctic Ichneumoninae. (Canadian entomologist, Aug. 1956. v. 88, no. 8, p. 477–87.)

Contains a key, followed by descriptions of 12 new species and subspecies of ichneumon flies of the northern sections of North America; two are from Alaska (Cold Bay and Seward), nine from northern Canada: Northwest Territories, Yukon Territory, Labrador and northern Quebec and one is from Alert, Ellesmere Island. Based mainly on material obtained by the Northern Insect Survey, a co-operative project of the Canadian Dept. of Agriculture and Defence Research Board.

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**45499. HEINTZ, ANATOL, 1898**. To rettelser. (Naturen, 1953. Årg. 77, nr. 15, p. 477-78.) Text in Norwegian. *Title tr.:* Two corrections.

In a comment on Einar Høiland's paper on climatic variations, q. v., it is pointed out that the only coal worth mining in Svalbard resulted from trees that did not grow under tropical conditions as coal-forming forests are generally believed to have done. According to plant remains found, the coal comes from trees that grew under temperate climate conditions.

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HEINTZLEMAN, B. FRANK, 1881–, see Alaska. Governor. Annual report 1955, 1956. No. 43544.

45500. HEISIG, WALTER. Volkskunst in der Sowjetunion. Berlin, Institut für angewandte Kunst, 1952. 17 p., 40 plates (part col.) Text in German. *Title tr.:* Folk art in the Soviet Union.

Propagandist introduction is followed by photographs of textiles, ceramics, etc., representing art of various nations of the U. S. S. R. Ivory carvings of Ostyak fishers' life, and others from Chukotka are included (plates 7–9).

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**HEJL, Z.,** see Brod, J., and others. Changes . . . renal haemodynamics and functions . . . cold stimulus. 1956. No. 44140.

45501. HELLAND, AMUND THEO-DOR, 1846-1918. Om botner og saekkedale samt deres betydning for theorier om dalenes dannelse. (Geologiska föreningen, Stockholm. Förhandlingar, 1875. bd. 2, häfte 9–10, no. 23–24, p. 286–301, 342–56, plate, table.) Refs in text. Text in Norwegian. *Title tr.:* On bottoms and cul-de-sac valleys and their significance in theories of valley development.

Cirques are described, including several in Finnmark, with mention of their occurrence on Svalbard. Their association with recently past or presently existing ice fields is noted; their occurrence commonly on northward slopes of mountains, development in a variety of bedrock, the general shape, and other features are discussed. The latter part of the study includes (p. 343-48) the original report by Lieut. K. Lorange (Theorie om botnernes og dalenes dannelse, 1868) that contains the key to the currently accepted theory of cirque development.

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45502. HELLAND-HANSEN, BJØRN, 1887— The Sognefjord section; oceanographic observations in the northernmost part of the North Sea and the southern part of the Norwegian Sea. (In: James Johnstone memorial volume, Liverpool, 1934. p. 257–74, illus., map.) 3 refs.

Report of investigations made in the spring of 1925, 1927, and 1929, along a section leading from Sognefjord (approx. 61° N. 5° W.) in a northwesterly direction. Temperature and salinity profiles, variations in temperature and salinity, especially in the Norwegian-Atlantic current as well as local variations, are analyzed and discussed and compared with earlier data.

\*\*Copy seen: DLC.\*\*

45503. HELLBOM, PEHR JOHAN, 1827–1903. Bidrag till Lule Lappmarks lafflora. (Svenska vetenskapsakademien. Öfversigt af förhandlingar, 1875. årg. 32, no. 3, p. 49–82.) Text in Swedish. *Title tr.:* Contributions to the lichen flora of Lule Lappmark.

Contains an annotated list of about two hundred species and forms of lichens collected in Lule Lappmark in 1871, with notes on habitat and local distribution. See also No. 45504 for notes from an earlier trip.

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45504. HELLBOM, PEHR JOHAN, 1827–1903. Lichenologiska anteckningar från en resa i Lule Lappmark sommaren 1864. (Svenska vetenskapsakademien. Öfversigt af förhandlingar, 1865. årg.

22, no. 6, p. 451–78.) Text in Swedish. *Title tr.:* Lichenological notes from a journey to Lule Lappmark in the summer of 1864.

Contains a general account of the trip to various sections of Lule Lappmark, a sketch of lichen flora, Latin diagnoses of six new species and a variety. Some 250 species and forms are listed with brief notes on habitats and local distribution. A later trip is reported above.

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45505. HELLÉN, ESKO. Skogsarbetets mekanisering på frammarsch i Finland. (Norsk skogbruk, Nov. 1956. årg. 2, nr. 21, p. 693–94, 2 illus.) Text in Swedish. *Title tr.*: Mechanization of forest labor on the forward march in Finland.

Mechanization increases in northern Finland as labor becomes scarce and prices rise. Use of motors and tractors for sawing, loading, and transportation in the Inari and Rovaniemi districts is cited. It is recommended that firms furnishing the machinery guarantee to repair it.

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45506. HELLÉN, WOLTER, 1890—. Verzeichnis der in den Jahren 1951–1955 für die Fauna neuhinzugekommenen Insektenarten. (Notulae entomologicae, 1956. v. 36, no. 2, p. 33–50) Text in German. *Title tr:* A list of species added to the insect fauna of Finland for the years 1951–1955.

The 517 added species bring the number known in Finland to 15,553. Some arctic species are included. This is the seventh five-year systematic list of added and excluded species, cf. No. 22547-22552. Copy seen: MH-Z.

45507. HELLÉN, WOLTER, 1890—. Zur Ichneumonidenfauna Finnlands, IX; Hym. (Notulae entomologicae, 1956. v. 36, no. 4, p. 125–41.) Text in German *Title tr:* Contributions to the Ichneumonidae fauna (Hym.) of Finland, IX.

Contains a systematic list of some 90 ichneumon flies, with descriptive and critical records. At least 12 of the species are native to Finnish and Russian Lapland. The number of known Finnish forms is brought, by 17 additions, to 1928. Earlier parts of this series are listed as No. 22554–22555 and 29601 of Arctic Bibliography.

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45508. HELLÉN, WOLTER, 1890- . Zur Kenntnis der Agathidinen Finnlands;

Hym., Brac. (Notulae entomologicae, 1956. v. 36, no. 4, p. 116-25.) 12 refs. Text in German. *Title tr:* A contribution to the knowledge of Agathidinae

of Finland; Hym., Brac.

Contains a critical revision of this hymenopterous subfamily, with synopses of the genera and species and an annotated systematic list of 18 species (one new). Among them are Earinus delusor from Finnish Lapland, and Agathis nigra from the Pechenga region, Kola Peninsula. Copy seen: MH-Z.

45509. HELLIWELL, ROBERT ARTHUR, 1920-, and others. The "nose" whistler, a new high-latitude phenomenon. (Journal of geophysical research, Mar. 1956. v. 61, no. 1, p. 139-42, illus.) Other authors: J. H. Crary, J. H. Pope, and R. L. Smith.

Two spectrograms are reproduced of a new type of whistler recorded by the Geophysical Institute at College, Alaska (geomagnetic lat. 65°). It is characterized by the conventional descending trace as well as rising parts lasting 0.1-0.2 sec. and extending roughly 1,500 cps. on either side of the starting frequency. This unusual shape of the trace has led to the term nose whistler. A possible explanation of this type of whistler is formulated.

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45510. HELLMANN, ERKKI ARVID, 1895—. Havaintoja vesiperhosten (Trichoptera) esiintymisestä eräillä pohjois-Suomen paikkakunnilla. (Suomen hyönteistieteellinen aikakauskirja, 1952 v. 18, no. 3, p. 133–36.) Text in Finnish. Summary in German. *Title tr:* Observations on caddis flies (Trichoptera) in some localities of northern Finland.

Contains tabulated phenological data, (emergence, flight time, frequency) on 58 species of caddis flies in four districts of northern Finland: Enontekiö parish (ca. 68°25′ N.), June-Aug. 1951; Pelkosenniemi in Kemi Lappmark (ca. 67°05′ N.), May-Sept. 1947; Paltamo (64°30′ N.), July-Aug., 1949; and Haapavesi (64°08′ N.), May-Sept. 1946.

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45511. HELLMAN, ERKKI ARVID, 1895- . Taeniocampa gothica L., yökkösen eri muotojen ersiintyminen eri osissa maata. (Suomen hyönteistieteellinen aikakauskirja, 1950. v. 16, no. 2, p. 93.) Text in Finnish. Summary in English. Title tr.: The occurrence

of different forms of the moth Taeniocampa gothica (Lep., Noctuidae) in

various parts of Finland.

Deals with regional dist.

Deals with regional distribution of this moth from study of 403 specimens from various sections of the country. T. gothica ab. gothicina seems to be dominant in the North, including Finnish Lapland (Pelkosenniemi, Kemi region), while ab. gothica is very common in the south.

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HELMENDACH, ROGER H., see Bartlett, R. G., and others. Comparative . . . restraint (emotional) hypothermia, laboratory animals. 1956. No. 43891.

HELMENDACH, ROGER H., see also Bartlett, R. G., and others. Gross muscular activity . . . temperature regulation . . . restrained rat. 1956. No. 43892.

45512. HELMSWORTH, JAMES ALEXANDER, 1915—, and W. R. COLE. Comparison of two methods for induction of hypothermia in dogs. (Archives of surgery, Sept. 1956. v. 73, no. 3, p. 481–84, tables.) 3 refs.

A comparative study of blood elements in animals made hypothermic by immersion in ice water and by blood stream cooling. In the first case a greater increase in hematocrit, greater fall in the count of platelets, leucocytes, eosinophils and corpuscular hemoglobin concentration were observed. The significance of these differences is discussed.

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HEMING, ARTHUR EDWARD, 1913-, see Holtkamp, D. E., and others. Effect . . . metabolic antagonists on body-temperature . . . rats. 1956. No. 45594.

45513. HEMINGWAY, ALLAN, 1902-, and L. BIRZIS. Effect of hypoxia on shivering. (Journal of applied physiology, May 1956. v. 8, no. 6, p. 577-79, illus.) 3 refs.

Reducing the 0<sub>2</sub>-percentage by 21-13 percent in the atmosphere of pentobarbitol anesthetized cats had no effect on shivering. Between 13 percent and 8 percent shivering decreased and ceased, and 0<sub>2</sub>-consumption rate dropped to the non-shivering value. Conditions in the decerebrated preparations are also discussed.

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45514. HEMINGWAY, ALLAN, 1902-, and L. BIRZIS. Nervous control of

shivering, 4; the effect of hypoxia on shivering. Ladd Air Force Base, Alaska, Apr. 1956. 10 p. illus. (U. S. Air Force. Arctic Aeromedical Laboratory, project no. 8-7951, report no. 5.) 17 refs.

Decreasing the oxygen percentage (in a N<sub>2</sub>:O<sub>2</sub> atmosphere) between 21 and 13 percent had no effect on shivering of cats anesthetized with pentobarbitol sodium. Between 13 and 8 percent, shivering decreased until it was abolished and O<sub>2</sub>-consumption fell to the non-shivering value. *Copy seen:* DNLM.

HEMMINGSEN, E., see Coachman, L. K., and others. Gas enclosures . . . temperate glacier. 1956. No. 44395.

45515. HEMPHILL, ERNEST. The near North. (Canadian aviation, July 1956. v. 29, no. 7, p. 48-50, 6 illus.)

The major role played by aircraft in supplying materials for construction of the Mid-Canada early warning line is described. The Mid-Canada, a second line of defense behind the DEW line, extends from the Labrador coast some 3000 miles westward to the Rocky Mts. foothills, approximately along the 55th parallel. This line is financed, built and supplied entirely by Canada. Helicopters were used extensively in the airlift. The dependability of airlift operations in this largely undeveloped area has been established as a result of the construction of this radar line. Copy seen: DLC.

45516. HEMSTOCK, RUSSELL A. Economic aspects of muskeg with respect to oil production. (In: National Research Council of Canada. Associate Committee on Soil and Snow Mechanics. Proceedings of the Eastern Muskeg Research Meeting, February 22, 1956. Ottawa, Oct. 1956. Technical memorandum, no. 42, p. 31-40, text map, 2 graphs, table.)

Muskeg is chief terrain hazard in oil development in the western Canadian sedimentary basin. Exploration and exploitation operations (drilling, production, pipelining), are described; initial and maintenance costs of wells, access roads, bridges, etc., are noted and amounts attributable to muskeg problems specified. Research on new or better equipment for muskeg areas is described, also of work to suit the seasons, long-term planning on engineering problems, drilling methods suitable for muskeg.

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45517. HENDERSON, ERIC P. Large nivation hollows near Knob Lake, Quebec. (Journal of geology, Nov. 1956. v. 64, no. 6, p. 607-616, 3 illus., text map, diagrs., cross-section.) 8 refs.

Well developed hollows associated with snow patches occur in glacial drift on north-facing slopes in the area 54°30'-45' N. 67°15′-45′ W., about 30 mi. southwest of Knob Lake. Hollows originated through the sapping and erosive action of freeze-thaw processes acting on saturated ground under or along the edges of snow patches. Two stages of development are apparent: simple hollows formed by nivation erosive processes; complex forms evolved when collapse of the backwall has modified simple hollows. Hollows are stabilized at present. apparently formed under a colder climate and/or heavier precipitation than today, possibly during the "little ice age" in late postglacial time. Copy seen: DGS.

**45518. HENDERSON, KENNETH A.** Rockies. (Swiss Foundation for Alpine Research. Journal, 1956. v. 1, nr. 5, p. 298–301.)

Includes description of two ascents of Mt. McKinley, one in Apr. 1954 by a four-man party (led by M. Wood) which reached the south summit via the south buttress, the second, in May 1954, by a five-man party which reached the north summit via the northwest buttress; also first ascent of Mt. Drum in the Wrangell Mts. and ascent of Mt. Hunter in the McKinley Range, both by a three-man party June-July 1954.

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45519. HENDRICKS, STERLING BROWN, 1902— . Control of growth and reproduction by light and darkness. (American scientist, July 1956. v. 44, no. 3, p. 229–47, illus., graphs, tables.) 13 refs.

Responses by animals and plants to seasonal changes are exemplified, and features of the responses, are noted. Experiments with plants, vertebrate animals, arthropods, cyclic responses of man and the rat, cyclic control of egg laying in chickens are described. Night or day length is controlling factor, in responses rather than temperature changes. References are made to animal and plant life in arctic and subarctic regions.

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45520. HENNIG, RICHARD, 1874-1951. Antike und mittelalterliche Fahrten in den hohen Norden. (Polarforschung, 1954, pub. 1956. Bd. 3, Heft 1-2, Jahrg. 24, p. 282-86.) Text in German. Title tr.: Voyages to the far North in antiquity and the Middle Ages.

Contains survey of the earliest references in the literature to voyages made to northern regions. Such scientific knowledge of the northern regions as the ancients possessed was based on the voyage of the Massiliot Pytheas to the north of Schleswig-Holstein using northern Scotland as the point of departure. The midnight sun was mentioned by Pomponius Mela (40 A. D.), but actual penetration into arctic and subarctic waters was not accomplished until the Middle Ages. Ocean voyages by the Irish and Norsemen during the 7th-9th centuries, and the numerous Norse voyages since 981, including those of Eric the Red, are not considered among travels into the arctic zones. Polar voyages during the close of the 12th century probably reached as far as 80° N. lat., with the discovery of Spitsbergen believed to have occurred in 1194. A brief description of the settlement of Greenland's west coast during the late 13th and 14th century is given. Polar travels ceased in the 15th century and started again in the mid-16th with Chancellor's voyage to the mouth of the Dvina River (1553-1554). Copy seen: DLC.

**HENNIGER, JOSEPH,** see Schmidt, W. Der Ursprung der Gottesidee . . . 1954. No. 47836.

45521. HENNING-JENSEN, BJARNE. From Greenland's icy mountains. (Danish Foreign Office journal, May 1956. no. 19, p. 24–25, 4 illus.)

Contains a brief account of the filming of the Danish color movie "Where mountains float" in Greenland during 1954. The cast was selected from local inhabitants at Sarqaq in Disko Bay. The 50-min. film required nearly six months to shoot; it won the Grand Prix at Venice in 1955 and other prizes.

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HENNINGSEN, EIGIL JUEL, 1906—, see Denmark. Grønlands Styrelse. Beretning . . Laegeekspedition 1947–48. 1949. No. 44594.

45522. HENNINGSMOEN, GUNNAR. The Cambrian of Norway. (In: Inter-

national Geological Congress. 20th, Mexico City, 1956. El sistema Cámbrico, su paleogeografía y el problema de su base: symposium. Tomo 1, p. 45–57, text map, sections, table.) 27 refs.

Discusses the Holmia (Olenellus) and succeeding Cambrian Series. Cambrian outcrops occur in the Oslo and adjoining region to the north, also in the Caledonian mountain region of eastern Troms and Finnmark, of which map shows nine localities for Cambrian fossils. Lower, Middle, and Upper Cambrian are briefly discussed, with references to northern Norway; also paleogeography of Cambrian time, faunas and correlations.

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45523. HENRIKSEN, HANS J. Samene og samfunnet. (Sameliv; Samisk selskaps årbok 1951–1952, p. 94–117.) Text in Norwegian and Lappish. *Title tr.:* The Lapps and the community.

Contains brief historical survey of the position of the Lapps in Norway and of the problems facing them today. Their traditional ways of earning their livelihood are diminishing; their most pressing need is for education and vocational training.

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**45524. HENRY, JOHN P.,** and **W. V. WHITEHORN.** Effects of cooling of cortical respiratory area on exercise hyperpnea in the dog. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 90-91.)

Summary of experiments which indicate that cortical impulses contribute to hyperpnea of exercise even under conditions of anesthesia and low degree of exercise. The significance of these observations for further study is stressed.

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45525. HENRY, T. J. G., and others. Vector mean winds and standard vector deviations for selected rawin stations in Canada. Toronto, June 1954. 28 p. 5 graphs, tables. (Canada. Meteorological Service. Circular 2507, TEC-190.) 2 refs. Other authors: A. Nurklik and W. A. Thorn.

Vector mean (resultant) winds, standard vector deviations, and standard deviations of westerly and southerly components at rawin stations are presented monthly for the levels 1.5, 3, 5 km. (mostly) and 7 km. Vector mean winds and standard vector determinations in terpolated or extrapolated to 850, 700, 500, and, where possible, 400 mb. are

also given. Stations include Alert, Churchill, Clyde River, Eureka, Fort Smith, Frobisher, Goose Bay, Resolute, and Whitehorse. *Copy seen:* DWB.

45526. HENRY, WALTER K. The movement of the Southwest Low. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 110.)

Describes the occurrence of a closed cyclonic circulation centered over the southwestern United States and the adjacent portion of the Pacific Ocean, and proposes a means of forecasting the behavior of the cyclone.

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HENSCHEL, AUSTIN FERDINAND, 1906–, see Bass, D. E., and A. F. Henschel. Responses . . . body fluid compartments . . . heat and cold. 1956. No. 43902.

HENSEL, S. L., see Austin, J. M., and S. L. Hensel. Analysis . . . freezing precipitation . . . coastline. 1956. No. 43776.

HENSHAW, SAMUEL, see Hamilton, J., and S. Henshaw. A list... North American Coleoptera... 1891–92. No. 45411.

45527. HENSLER, EMIL. Die Verkehrswege Lapplands. (Geographische Gesellschaft, Vienna. Mitteilungen, 1955. Bd. 97, H. 1, p. 54-59, text map.) 3 refs. Text in German. Title tr.: The trade routes of Lapland.

Contains brief description of Lapland, its extent, long periods of daylight in summer and darkness in winter; its two main highways, the Norwegian State Highway No. 50 from Oslo to Kirkenes and the Finnish Arctic Sea Highway from Rovaniemi to Liinahamari on Petsamo Fjord, also connecting and secondary roads; role of roads during and since World War II; their part in linking this region with the rest of Europe.

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45528. HERBERT, CHARLES H. The development of transportation in northern Canada. (Association of American Geographers. Annals, June 1956. v. 46, no. 2, p. 250–51.)

Abstract of paper presented at the 52nd Annual Meeting of the Association, Montreal, Apr. 1–5, 1956. Transportation is the greatest problem in economic development of the Northwest Territories. Mackenzie River transport is cheap but handicapped by long winters, rapids,

shifting channels, etc. High costs restrict freight shipped by road from Grimshaw, Alta., to Great Slave Lake. Aviation has done much to open up the North. Transportation proposals include railway to Great Slave Lake, expansion of highway network, and increase in scheduled air routes.

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**45529. HERBERT, CHARLES H.** The development of transportation in the Canadian North. (Canadian geographical journal, Nov. 1956. v. 53, no. 5, p. 188–95, 13 illus., text map.)

Reasons for high transportation costs are considered, and comparisons made between facilities and routes in Yukon and Northwest Territories. Briefs presented to the Royal Commission on Canada's Economic Prospects stressed importance of improved transportation to mineral development, urged construction of resource development roads, railway to Great Slave Lake, and air servicing of arctic defense installations by commercial air routes acting as common carriers. Possible costs and benefits are discussed, with particular attention to the Great Slave Lake railway and region. Adequate transportation is not only essential to encouragement of exploration and development but is needed to alleviate economic conditions of the furtrapping population. Copy seen: DGS.

**45530. HERBERT, CHARLES H.** Mineral prospects and problems. (Western miner, Oct. 1956. v. 29, no. 10, p. 76–79, 4 illus., port.)

Contains survey of exploration and development in Northwest Territories and Yukon, stressing the sparseness of population and small development of natural resources in relation to the great size and richness of the area. Discoveries and promising prospects in lead and zinc, nickel and copper, iron ore, and petroleum are discussed. Major obstacles to mineral development are high transport costs and lack of transport facilities as emphasized by Commissioners of both Territories in briefs presented to the Royal Commission on Canada's Economic Prospects in Nov. 1955. Importance of development roads, and need for railway from Grimshaw, Alta., to Great Slave Lake, were stated. Greater time required to bring new mines into production in the North was shown and easing of tax laws for such mines was discussed. Copy seen: DGS. **HERGET, H. M.,** see National Geographic Society. National Geographic on Indians . . . 1955. No. 46941.

HERLOFSON, N., see Block, L., and N. Herlofson. Numerical integration of geomagnetic field lines. 1956. No. 44055.

45531. HERMAN, CARLTON MARTIN, 1909-, and others. Causes of winter losses among Canada geese. (North American Wildlife Conference. 20th, Montreal, Canada, 1955. Transactions, p. 161-65) 4 refs. Other authors: J. H. Steenis and E. E. Wehr.

Account of investigation begun in 1950 with the aim to ascertain the cause(s) of high losses among the geese on the Pea Island Refuge in North Carolina. Age, weight, sex and parasite load were determined in 1,339 birds. Gizzard worm infections were found to cause most widespread and severe damage, amounting to 90 percent in healthy and 100 percent in sick animals. Coccidia and nutritional factors are also considered as causes of the high death rate.

Copy seen: DI.

45532. HERMANN, FREDE. Hydrographic conditions in the eastern part of Labrador Sea and Davis Strait, 1954. (International Council for the Exploration of the Sea. Annales biologiques 1954. pub. 1956. v. 11, p. 25–26, illus.)

Report on investigations carried out during Apr.-July, covering temperature conditions, currents and phosphates. Temperature and current configuration is analyzed and compared with those of the previous year. Copy seen: DI.

HERMANN, FREDE, see also International Commission for NW. Atlantic Fisheries. Annual proceedings . . . . 1955–56. 1956. No. 45703.

HERMANN, FREDE, see also Littlewood, W. H., and F. Hermann. The Danish... Dana and her post-war program. 1955. No. 46401.

HÉROLD, M., see Cahn, J., and others. Métabolisme cardiaque . . hibernation . . . 1956. No. 44233.

45533. HÉROUX, OLIVER, 1922-. Capillary counts in different organs of warm and cold acclimated white rats. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 92.)

Study based on counts in stained sections. Cold acclimatization produced increased vascularization in leg muscles and in ears but not in liver and heart. **Copy seen:** DLC.

45534. HÉROUX, OLIVER, 1922–, and others. Metabolism and muscle activity of anesthetized warm and cold acclimated rats on exposure to cold. (Journal of applied physiology, Nov. 1956. v. 9, no. 3, p. 399–403, illus. table.) 12 refs. Other authors: J. S. Hart and F. Depocas.

Account of experiments with two groups of rats, acclimated for 4-6 wks. identically anesthetized and evaluated on the basis of maxillary reflex measurements. It is concluded that cold-acclimatized animals when exposed to cold "can have a greater metabolic response than warm acclimated rats, possibly by virtue of chemical thermogenesis alone."

\*Copy seen: DNLM.

**HÉROUX, OLIVER, 1922** , see also Hart, J. S., and others. Cold acclimation and the electromyogram . . . 1956. No. 45459.

HÉROUX, OLIVER, 1922—, see also Hart, J. S., and O. Héroux. Utilization of body reserves . . . low temperatures. 1956. No. 45460.

45535. HERRE, ALBERT WILLIAM CHRISTIAN THEODORE, 1868- . A new Alaskan *Lecanora* and a new *Leptogium* from California. (Bryologist, Mar. 1956. v. 59, no. 1, p. 39-41.)

A new lichen from Evans Island, Southeast Alaska, named after its discoverer Lecanora eyerdamii, Herre is described. It was found on a decorticated trunk of Alaska spruce. Copy seen: DA.

45536. HERZOG, ROLF. Eine russische Handschrift von sprachwissenschaftlicher und völkerkundlicher Bedeutung. (Ethnographisch-archäologische Forschungen, 1953. Bd. 1, p. 119–26, illus.) 13 refs. Text in German. Title tr.: A Russian manuscript of philologic and ethnologic importance. Previously listed as No. 40352.

Describes an 18th century 150-page Russian manuscript at the University of Göttingen Library and speculates on its authorship. Written by various hands without indication of author, the manuscript consists mainly (two thirds) of a vocabulary in Latin, Greek and Russian transliteration of 300 words of 34 peoples, mostly from Siberia, including: Ostyak, Yeniseian, Tungus, Samoyed, Vogul, etc.

The remaining part is advice for conducting ethnographic studies in Siberia. The theory is advanced that the manuscript was compiled by G. F. Müller (cf. No. 36367), historian and member of the second Bering expedition who is known to have prepared word lists during his travels in Siberia, and not by his successor J. E. Fischer (cf. No. 34681) who brought the manuscript to Göttingen but was unfamiliar with some of the languages recorded.

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45537. HESSELBERG, THEODOR, 1885—, and B. J. BIRKELAND. The continuation of the secular variations of the climate of Norway 1940–50. Bergen, A. S. John Grieg, 1956. 40 p. illus., diagrs., maps, tables. (Geofysiske pub-

likasjoner, v. 15, no. 5.)

Continuation of four studies (No. 7045, 45538) based on data prior to 1940. Departures from mean annual and seasonal values are tabulated for atmospheric pressure, air temperature, and precipitation for the period 1901–30 after 30 years smoothing. Departures from the mean values for the period after ten years smoothing are also tabulated. Variations are graphed. The climatic changes in the period 1940–50 are characterized by an augmented use of pressure, a slower rise of temperature, and small variations in the amount of precipitation. Copy seen: DLC.

45538. HESSELBERG, THEODOR, 1885—, and B. J. BIRKELAND. Säkulare Schwankungen des Klimas von Norwegen; Teil 4, die Feuchtigkeit. Oslo, Grøndahl, 1944. 49 p. graphs, maps, tables. (Geofysiske publikasjoner, Norske videnskaps-akademi i Oslo, v, 15, no. 2.) Text in German. Title tr.: Secular changes in the climate of Norway;

pt. 4, humidity.

Secular variations in humidity are shown to exist by an adjustment over a period of 30 years. The period for which data were used (1860–1940) showed an increase in relative humidity in Norway on the average of 1.5 percent. At the same time, the vapor pressure increased by about 5 percent. By comparison between the changes in air currents and humidity during the period 1876–1905 until 1906–1935, and from 1912–1921 until 1926–1935, an agreement was shown to exist, manifested by increasing southerly and westerly air currents which cause an increase in humidity, while northerly and easterly air currents cause

a decrease in humidity. Orographic conditions cause relative humidity to decrease on descending from mountains and to increase on ascending. In Spitsbergen an increase in vapor pressure during all seasons was shown in connection with the general heating. Deviations of relative humidity from mean values are tabulated for some ten stations including Bergen, Trondheim, Bodø, and Tromsø.

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45539. HESSELMAN, HENRIK. Material för studiet af skogsträdens raser. (Stockholm. Statens skogsförsöksanstalt. Meddelanden, 1906. häfte 3, p. 65–84, 4 illus., plate.) Refs. in text. Text in Swedish. Summary in German. Title tr.: Material for study of forest species.

Continued research on forestry conditions in any locality depends on collection of material on species and possible mutations. Delayed chlorophyll development is characteristic in several parts of Sweden. Problems of seed development are important in Norrland. The effects of mineral fertilizers may well be studied.

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45540. HESSELMAN, HENRIK. Om tallens diametertillväxt under de siste tio åren. (Stockholm. Statens skogsförsöksanstalt. Meddelanden, 1904. häfte 1, p. 45-53, diagr., tables.) Text in Swedish. Summary in German. Title tr.:

ten years.

Increases in diameter of trees from 1895 to 1904 are studied to further understanding of climatic effects on vegetative growth. Standardization of material sampled is considered; diameter growth of trunk is compared to new shoot growth, and analyzed with reference to climate records. Material from northern Sweden was collected from near Gällivare. Varve breadths are tabulated.

On diameter increase of pine in the last

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45541. HESSELMAN, HENRIK. Om tallens höjdtillväxt och skottbildning sommarne 1900–1903. (Stockholm. Statens skogsförsöksanstalt. Meddelanden, 1904. häftel, p. 25–43, illus., diagr., 2 tables.) Text in Swedish. Summary in German. Title tr.: On the increase in height and shoot formation of pine in the summers, 1900–1903.

The warm dry summer of 1901 and the cool damp one of 1902 exemplify variations in Sweden which the vegetation

tolerates. Their effects may differ in northern and southern parts of the country. Conditions of transpiration and assimilation are discussed with reference to climatic records, which are tabulated, and related to new forest growth.

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HESSLER, V. P., see Little, C. G., and others. Radio wave propagation . . . 1956. No. 46397.

45542. HEUBERGER, JEAN CHARLES. Mesures de températures dans l'ice-cap du Groenland. (Geofisica pura e applicata, 1956. v. 34, no. 2, p. 71-73.) Text in French. Summary in English. *Title tr.:* Measures of temperatures in the Greenland icecap.

In reply to Kurt Wegener's assertion (cf. No. 43263) that results obtained by the Expéditions polaires françaises in 1950 are contradictory to those obtained by the Germans in 1930-31. The measurements by the two parties are not comparable due to differences in the size of the bore holes and to the fact that the upper firn layer (down to 15 m.) is affected by temperature changes in the air above. The accuracy of the instruments used in 1950 is considered satisfactory.

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HEWER, H. R., see Backhouse, K., and H. R. Hewer. Delayed implantation in the grey seal . . . 1956. No. 43806.

45543. HICKS, CLARENCE H., and others. Electrocardiographic changes during hypothermia and circulatory occlusion. (Circulation, Jan. 1956. v. 13, no. 1, p. 21–28, illus., table.) 15 refs. Other authors: M. C. McCord and S. G. Blount, Jr.

Observations on 25 patients are reported: hypothermia was accompanied by reduced heart rate and intracardiac conductivity and by inhibition of the normal centers of impulse formation. Circulatory occlusion during hypothermia was associated with a high incidence of ventricular arrythmias.

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45544. HIESTAND, WILLIAM ANDREW, 1903—, and others. Relative toxicity of certain chemical agents at low and room temperature in a homeotherm (mouse) and a poikilotherm (frog). (American midland naturalist, Apr. 1956. v. 55, no. 2, p. 321–25, tables.) 19 refs. Other authors: F. W. Stemler, and R. F. Madden.

Account of trials with over a dozen drugs (atropine, morphine, cocaine, ethanol, etc.). At low temperature (2–5° C.) all compounds were less toxic to the frogs, and more toxic to the mice.

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HIESTAND, WILLIAM ANDREW, 1903-, see also Denison, M. E., and others. Effect of castration . . . to cold on oxygen uptake of rat tissues. 1956. No. 44590.

45545. HIGUCHI, KEIJI. A new method for the simultaneous observation of shape and size of a large number of falling snow particles. (Journal of meteorology, June 1956. v. 13, no. 3, p. 274—

78, illus., diagrs.) 8 refs.

"A shadow-photograph method, reported earlier, for recording the form, size, and mass of individual snow crystals is described. As an application of the method, the coalescence of crystals was studied. From the size distribution of crystals, the probabilities of coalescence between two crystals of the same size and of differing sizes were determined during a snow fall consisting of plane dendritic crystals. The probability of coalescence is at a min. when the two are of the same size and increases as the size difference increases."—SIPRE.

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HIKITA, YUTAKA, see Husioka, T., and Y. Hikita. Studies . . . resistance . . . snow sledge, II . . . 1954.

**45546. HILDES, J. A.** Some physiological aspects of arctic warfare. (Canadian services medical journal, Oct. 1956, v. 12, no. 9, p. 776–86.) 46 refs.

Includes information on heat loss and maintenance of body temperature; clothing, hand and foot wear, protection of face and head; sleeping bags; food and drink; adaptation to cold (vascular, metabolic, etc.); selection and training for arctic warfare; frostbite (local), hypothermia and their therapy.

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HILL, ROBERT M., see Watkins, D. H., and others. The effect of somatotrophin . . . 1956. No. 48872.

HILLS, G. A., see Johnston, R. N., and G. A. Hills. The . . . rehabilitation of organic terrain . . . 1956. No. 45816.

4547. HILSCHER, HERB. How we may speed the social progress of Alaska. (*In:* Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 160–63.)

Exhortation to Alaskans to widen their intellectual and social horizons. The University of Alaska should assume leadership; adult education, community projects, etc., should be extended; an educational movie project in 1951 is cited as example of such enterprise. Work of other community groups is noted, also decreasing isolation due to transportation improvements.

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45548. HILTON, DONALD C. Cold weather construction methods. (Military engineer, Jan.-Feb. 1956, v. 48, no. 321, p. 46-48, illus.)

Contains brief outline of construction methods and problems in polar areas. Buildings, airstrips and road construction, and water supply and sanitation are discussed for permafrost, snow, and ice.

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45549. HIMMELSTRUP, OLAV. Boligbyggeriet i Grønland. (Grønland, Apr. 1956, nr. 4, p. 150–59, illus.) Text in Danish. *Title tr.:* House building in Greenland.

Survey of present-day construction: 600-700 houses have been built with aid from the state housing fund, set up in 1953. Problems of planning and design, materials, etc., are discussed: a central living room-kitchen with one or more bedrooms, is probably most practical; concrete or cement is preferable to wood, expensive and a fire hazard; proper insulation is stressed. **Copy seen:** DLC.

45550. HINES, HARRY MATLOCK, 1893-, and others. Comparison of blood flow in normally innervated and in sympathectomized legs of dogs after exposure to cold. Randolph AFB, Texas, May 1956. 7 p. illus., tables (U. S. Air Force. Air University. School of Aviation Medicine. Report no. 56-53.) Other authors: C. J. Imig and W. J. Robertson.

Report of investigation on volume of blood flow during and following rewarming from 3½ hr. exposure to -4° C. There occurred an increase of blood flow in legs with intact innervation but not in sympathectomized legs; injections of pentobarbital sodium and of hexamethonium produced similar results.

\*\*Copy seen: DNLM.\*\*

HINES, HARRY MATLOCK, 1893-, see also Imig, C. J., and others. Blood flow . . . limbs . . . exposure to cold. 1956. No. 45687.

HINES, HARRY MATLOCK, 1893-, see also Imig, C. J., and others. Comparison of blood flow . . . innervated and in sympathectomized legs . . . cold. 1956. No. 45688.

HINES, HARRY MATLOCK, 1893—, see also Senay, L. C., and others. Neuro-muscular damage . . . cold. 1956. No. 47901.

HINTON, J. WILLIAM, see Postel, A. H., and others. Effect of hypothermia . . . shock. 1956. No. 47431.

45551. HIRSTI, REIDAR. Næringslivet i indre Finnmark. (Sameliv; Samisk selskaps årbok 1951–1952, p. 118–22.)
Text in Norwegian. *Title tr.:* Economic life in the interior of Finnmark.

Suggests ways of relieving the economic crisis in Finnmark: by a rational and intensive agricultural development, expansion of communications, establishment of minor industries, such as a canning factory for reindeer products; also support of reindeer husbandry and of Lappish handicrafts. Government aid is required. Copy seen: DLC.

45552. HIRVONEN, LEO. Temperature range of the spontaneous activity of the isolated hedgehog, hamster and rat auricle. (Acta physiologica scandinavica, 1956. v. 36, fasc. 1–2, p. 38–46, illus., table.) 20 refs.

The isolated auricle of the hibernating species ceased to beat at considerably lower temperatures of both the upper and lower extremes of the tolerated range. Contrary to conditions of other animals studied, the rate of the hamster auricle was a linear logarithmic function of the temperature, which indicates species differences. Some other differences discussed point to same differences.

\*\*Copy seen:\*\* DNLM.\*\*

45553. HITCHCOCK, ALBERT SPEAR, 1865–1935. The grasses of Alaska: their distribution and relationship. (Washington Academy of Sciences. Journal, June 4, 1926. v. 16, no. 11, p. 311–12.)

Four main phytogeographic areas of Alaska are: the forested Southeast; the Interior, including the Yukon valley; the treeless West; arctic Alaska. Many grass species have a wide distribution outside Alaska; several arctic species are circumpolar. Calamagrostis canadensis is the dominant grass of the interior. The tribes Festuceae, Agrostideae, Aveneae and Hordeae are chiefly represented in Alaska; while the great tribes Paniceae, Andropogoneae and Chlorideae are lacking in the flora.

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HITTLE, JEAN E., see Frost, R. E., and others. Comprehensive report . . . airfield construction . . . 1948. No. 44993.

4554. HJULSTRÖM, FILIP. Sveriges elektrifiering; en ekonomisk-geografisk studie över den elektriska enegiförsörjningens utveckling. Uppsala, Appelberg, 1940. 290 p. 2 illus, 5 diagrs, 10 text maps incl. 9 fold., 21 tables (Geographica, nr. 8) ca. 200 refs. Text in Swedish. Summary in English. Title tr.: Sweden's electrification; an economic-geographic study of the development of

electrical energy supply.

Includes many scattered references to power and its development in Norrland: early use of electric power in the Gällivare district and along the railway to Narvik; abundant potential waterpower, and development of power at Porjus in 1910 for use in coastal Norrland, and especially rural electrification. Maps for 1900, 1911, 1923, 1924 and 1939 show developments graphically. Industrial groups' power use in 1900 is tabulated 280-81). Influence of energy as a factor of localization is note in the early twentieth century.

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HOAK, CARL G., see Lewis, R. B., and C. G. Hoak. Effect of delayed warming . . . experimental frostbite. 1956. No. 46341.

HOAK, CARL G., see also Lewis, R. B., and C. G. Hoak. Effect . . . warming . . . frostbite. 1955. No. 46340.

45555. HOAR, WILLIAM S. Photoperiodism and thermal resistance of gold-fish. (Nature, Aug. 1956. v. 178, no. 4529, p. 364-65, table.) 2 refs.

Account of experiments with two groups of fish kept in short day (8 hr. illumination and 16 hr. darkness) and long day (16 hr. illumination and 8 hr. darkness), both at room temperature and otherwise similar conditions. Exposure to thermal stress showed the short-day group consistently more re-

sistent to cold (4°-1° C.) while the longday group was more resistant to heat. **Copy seen:** DLC.

45556. HOBBS, WILLIAM HERBERT, 1864–1953. The poles of the atmospheric circulation. (Washington Academy of Sciences. Journal, May 19, 1928. v. 18, no. 10, p. 283–84.)

"The two glacial anticyclones of the earth, one centered relatively near, though not over, the southern geographic pole, and the other centered fully nineteen degrees of latitude from the northern pole, are thus the wind poles of our atmospheric circulation."—Author's abstract.

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HOBBS, WILLIAM HERBERT, 1864-1953, see also Explorers Club. Told... Explorers Club...tales...1931. No. 44832.

4557. HOCK, RAYMOND JAMES, 1918- . Alaskan zoogeography and Alaskan amphibia. (In: Alaskan Science Conference . . 1953. Proceedings, pub. 1956, p. 201–206, map.) 11 refs.

Notes on six amphibians known from Alaska: a newt, two salamanders, a toad and two frogs; and on their probable routes of entry into the area. Factors limiting northward penetration of amphibians are discussed: temperature and terrain with permafrost. A key to Alaskan amphibians is attached.

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45558. HOCK, RAYMOND JAMES, 1918— . Body temperature variations of nonhibernating Alaskan ground squirrels. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 94.)

Observations Apr. 23-Oct. 10 (the entire period of activity) 1951-1954, revealed the existence of the following annual temperature cycle: (1) low temperature of hibernation, Oct.—mid April; (2) a variable temperature from emergence till late June; (3) relatively constant temperature from late June through early Sept.; and (4) falling temperature, lasting till early Oct., preceding hibernation.

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45559. HOCK, RAYMOND JAMES, 1918— . Seasonal changes in the viscosity of the blood of ground squirrels. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 137–38.)

Contains description of physiological conditions in animals during hibernation and of observations on blood viscosity,

specific gravity, hematocrit, etc. during most of the year in ground squirrels, with rats as controls. Only the squirrels showed adaptive properties which allow changes in the blood in accordance with the seasons.

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HODGSON, F. M., see Great Britain. Hydrographic Dept. Bering Sea and Strait pilot . . . 1954. No. 45259.

45560. HODGSON, HARLOW JAMES, 1918— . Forage crop breeding in Alaska. (*In*: Alaskan Science Conference . . . 1953. Proceedings, *pub*. 1956, p. 144–48.)

Contains an analysis of the prospects of dairy farming in Alaska and, discussion of rational use of forage (and thereby reducing milk prices); local forage crop breeding principles and procedures; forage breeding requirements in Alaska; selection techniques; selection in alfalfa, etc.

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**45561. HODGSON, HARLOW JAMES, 1918**- . A new *Elymus* from Alaska. (Rhodora, June 1956. v. 58, no. 690, p. 144–48, illus.) 2 refs.

Contains Latin and English descriptions and measurements of E. pendulosus n. sp. (the type specimen, H. J. Hodgson No. 234, taken near Palmer, Alaska, Jy 29, 1955), a 28 chromosome species with distinctive pendulose aspect of the spike.

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HODGSON, JOHN HUMPHREY, 1913— , see Misener, A. D., and others. Heat flow . . . permafrost . . . Resolute Bay . . . 1956. No. 46787.

HOEBEL, E. ADAMSON, 1906-, see Sanders, I. T., Societies around the world. 1956. No. 47782.

45562. HØEG, OVE ARBO, 1898—. The present and past vegetation of Spitsbergen. (Linnean Society of London. Proceedings, Feb. 1956. v. 166, pt. 1–2, p. 144–49.) 12 refs.

Vascular plants in Vestspitsbergen comprise 113 species. These are adapted morphologically to extreme climatic conditions and capable of self-pollination or vegetative reproduction. A number of species are common to Spitsbergen and Norway; another group, found in Spitsbergen, North Greenland, and Novaya Zemlya, and very rare in Scandinavia, seem to have survived at least the last ice age in Spitsbergen. No fossil plants from any geological formation show morphological characteristics possessed by

present flora. Production of organic matter by present vegetation is very slight, whereas in Devonian through Tertiary strata, coal has been found repeatedly, indicating a relatively warm, humid climate. Problems relating to climatic change and ecology of arctic forests are suggested. **Copy seen:** DGS

45563. HØEGH, ERLING. Tanker omkring en grønlandsk folkehøjskole. (Atuagagdliutit: Grønlandsposten, June 28, 1956. Ukiut 96-iat, nr. 13, p. 3-6, 20.) Text in Danish and Eskimo. *Title tr.:* Thoughts on a Greenland folk highschool.

Plea for establishment of a folk highschool, plans for which have been discussed but no decision taken. The importance of a school devoted to the further, more general training of young Greenlanders is emphasized.

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45564. HØILAND, EINAR, 1907—. Klimasvingninger og mulige årsaker til dem. (Naturen, 1953. Årg. 77, nr. 2, p. 34–51, 2 tables.) Text in Norwegian. *Title tr.:* Climatic variations and possible causes.

Includes reference to post-glacial optimum of climate in its effects on arctic icecaps and the rising of sea level (p. 39), and (p. 41) to statements concerning recent rise in mean temperature on Svalbard. Comment added by A. Heintz, q. v. Copy seen: DLC.

45565. HOEL, ADOLF, 1879— . Le frastagliate coste della Norvegia. (Vie del mondo, Jan. 1956. Anno 18, no. 1, p. 65–78, 15 illus., text map.) Text in Italian. *Title tr.:* The broken coast of Norway.

Popular description of the coast from south to north, dealing briefly with fjords and islands, and including coasts of Nordland, Troms, and Finnmark. Illustrations of Nordkap, Tromsø, Lofoten Islands and settlements, Hammerfest, Narvik region, iron mines near Kirkenes.

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45566. HOEL, ADOLF, 1879—. Norges Svalbard- og Ishavsundersøkelsers ekspedisjoner til Svalbard og Grønland under de to verdenskriger. (Polarboken, 1956, p. 178–90, illus.) Text in Norwegian. Title tr.: Norway's Svalbard and Arctic Ocean Investigations' expeditions to Svalbard and Greenland during the two world wars.

Three expeditions are described: one

to Svalbard in 1917, two to East Greenland in 1940 and 1941. Difficulties of finance, resupply, and of British involvement in 1917 are discussed. Complications due to the German occupation of Norway during World War II were surmounted and the expeditions accomplished their missions.

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45567. HÖLTER, HERMANN. Armee in der Arktis; die Operationen der deutschen Lappland-Armee. Bad Nauheim, H. H. Podzun, 1953. 67 p. maps. Text in German. *Title tr:* Army units in the Arctie; the operations of the German Lapland-Army Corps.

Contains description of the battles of German units on the Lapland front during 1941-1944. The land front extended from Kiestinki to the Rybachiy Peninsula for 650 km., and the sea front from Petsamo Fjord to Nordkyn for 600 km. The corps along the polar sea was supplied by sea along the Norwegian coast, whereas the units near the Arctic Circle were supplied via the Baltic Sea. Purpose of the operations was the capture of the Murmansk railroad and Kola Bay with the port of Murmansk. The relationship between Germans and Finns during the German-Finnish coalition fight is described. A detailed description is given of Operation "Birke" (Sept. 3, 1944) designed to move German forces from the Louhi and Kandalaksha fronts northward for the establishment of new positions along the polar sea south of Ivalo Kautokeino. Operation and "Nordlicht" was designed to release units for the hard pressed forces east of the Petsamo nickel mines, those near the Salla road, and those approaching Rovaniemi from Kuusamo in the winter of 1944 after the Russian-Finnish armistice agreement. The author was German chief of the general staff in the high command of the Finnish Army and served as chief of the general staff of various commands in the North.

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45568. HÖRNER, N. G. Kryopedologi, permafrost och periglacial. (Geologiska föreningen, Stockholm. Förhandlingar, Mar.—Apr. 1950, bd. 72, häfte 2, no. 461, p. 230–39, 3 illus.) 33 refs. Text in Swedish. Summary in English. *Title tr:* Permafrost and periglacial eryopedology.

Includes reference to work of several authors on the science and on terminology, also to field observations in Alaska, Greenland, and polar regions in general. Copy seen: DGS.

45569. HØYRUP, FRITS. Hos de seige fjeldsamer. (Atuagagdliutit: Grønlandsposten, Sept. 6, 1956. Ukiut 96-iat, nr. 18, p. 3–6, 21, illus.) Text in Danish and Eskimo. *Title tr:* With the sturdy mountain Lapps.

Contains glimpses of life among the Lapps in north Sweden, including a description of a Lapp meeting in Jokkmokk (66°36′ N. 19°51′ E.) and of the boarding-school for Lapp children at Jukkasjärvi (67°50′ N. 20°35′ E.).

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45570. HØYRUP, FRITS. Med slips og rygsæk i det nye Nordnorge. (Atuagagdliutit: Grønlandsposten, June 14, 1956. Ukiut 96-iat, nr. 12, p. 3-4, 19-21, illus.) Text in Danish and Eskimo. *Title tr:* With necktie and rucksack in the new north Norway.

Impressions from post-war travels: reconstruction work, agriculture, reindeer husbandry, etc.; the fishing industry developed from 34,520 tons valued at 12 million Norw. kr. in 1947 to 175,599 tons, 71.5 million Norw. kr., in 1952.

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45571. HOFMAN, BRIAN F. Temperature effects on cardiac/transmembrane potentials. (*In*: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, *pub*. 1956. p. 302–326, illus.) 65 refs.

A study of transmembrane potentials of isolated heart fibers of the dog at various temperatures. Preparations used were from the auricle, papillary muscle and Purkinje system. Ionic basis of transmembrane potentials; relationship between the latter and excitability; effects of lowered temperatures; the role of pH, Poo2, potassium and calcium are investigated and analyzed.

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45572. HOFMANN, WALTHER. Miniature camera photography in the service of glaciological research. (Zeiss Werkzeitschrift, June 1956. v. 4, no. 20, p. 44–46, illus.)

The value of small portable cameras for recording glacier positions is stressed. Use of photographic equipment is essential in modern glaciological research.

While larger-type equipment is somewhat superior, satisfactory results can be obtained with a camera like the Contax III with 35-, 50-, and 135-mm. objectives.

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45573. HOFSTEN, NILS von, 1881—. Rotatorien der nordschwedischen Hochgebirge. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907—1939. Bd. 4, Zoologie, Lfg. 8, pub. 1923. p. 829—94, 12 illus.) 67 refs. Text in German. Title tr.: Rotatoria of the high mountains of northern Sweden.

Contains a systematic annotated list of about 80 species of fresh-water rotifers, based chiefly on the author's observations in Torne Lappmark (Abisko, Torne Träsk) in 1907 and 1908, in the Sarek Mountains (1911, 1916), and the mountains of Jamtland; two species are new and 14 new to the fauna of Sweden. Rotifer plankton of the northern Swedish lakes is compared with that of the boreal region; its distribution and elements are discussed. Cosmopolitan arctic species frequent in northern Swedish mountains (at least 25) and 17 arctic species less frequent are considered. Other elements of the fauna are also noted.

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45574. HOFSTEN, NILS von, 1881—. Turbellarien der nordschwedischen Hochgebirge. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907—1939. Bd. 4, Zoologie, Lfg. 6, pub. 1917. p. 697—742, 8 illus., 2 plates.) 27 refs. Text in German. Title tr.: Turbellaria of the high mountains of northern Sweden.

Contains a systematic annotated list of 27 species of turbellarians, collected by the author and G. Alm in 1907 and 1911 in the alpine region of Torne and Lule Lappmark (68°10'-26' N. 18°-19°40' E.); two species are described as new. Data are supplied on their ecology, frequency and vertical distribution in natural zones (table 1), also notes on two alpine-arctic species, Planaria alpina and Dendrocoelum lacteum. Rhabdocoel alpine faunas of northern Sweden and the Swiss Alps are compared (table 2) and discussed, as well as typical flat land and arctic-alpine species (especially Otomesostoma auditivum) of the Sarek Mts. and Torne Lappmark.

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45575. HOGUE, DONALD W. Temperatures of northern North America. Natick, Mass. June 1956. 62 p. 13 text maps, 7 tables. (U. S. Quartermaster Corps. Environmental Protection Research Division. Research study report RER-9.) 41 refs.

Contains data from 169 weather stations distributed at intervals of approx. five degrees of latitude and longitude in Alaska, Canada, Greenland, and Iceland; stations were selected primarily for geographic location and length of record: those with less than 10 yrs. being used only where no other data were available, the Greenland icecap represented by a one-year (Eismitte) and a two-year (Central Station) record. List of stations (with latitude, longitude, and elevation) is followed by tables of mean temperature, mean daily maximum and minimum, absolute maximum and minimum, and temperature frequencies. The mean monthly temperature is depicted by a map for each month with isotherms at 10° intervals. A brief analysis of the maps and a bibliography of data sources are given. Copy seen: CaMAI.

45576. HOHLE, PER, 1918— . Fjell Norge. Oslo, Dreyer, 1956? 96 p., 70 illus. Text in Norwegian. Also pub. in English as: The mountain world of Norway; translated by Ragnar Christophersen (104 p., 77 illus.) Copy in DLC.

sen (104 p., 77 illus.) Copy in DLC.
Photographs with brief descriptive
text, showing Norwegian mountain landscapes, houses, huts, flora and fauna.
North Norway, the Lofoten Islands,
Finnmark plateau, the Lapps, are well
represented.

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45577. HOHN, EMIL OTTO, 1919—Some ornithological records for Wood Buffalo Park and the Mackenzie District, N. W. T. (Canadian field-naturalist, July-Sept. 1956. v. 70, no. 3, p. 144.)

Contains notes on upland plover, magnolia warbler, Nevada cowbird and starling, observed at Fort Smith and at Norman Wells during the stops in the course of an airplane trip from Edmonton to Aklavik; some observations were also made in Wood Buffalo Park.

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HOHN, EMIL OTTO, 1919—, see also Manning, T. H., and others. The birds of Banks Island. 1956. No. 46609.

45578. HOIJER, HARRY. Athapaskan kinship systems. (American anthropolo-

gist, Apr. 1956. v. 58, no. 2, p. 309–333,

tables.) 36 refs.

Attempts to determine the pattern of kin group characteristics and the form and meaning of the original kinship terminology in proto-Athapaskan. Cognate sets (73) of kin terms are assembled from the daughter languages: Tanaina, Ingalik, Tena, Tanana, Kutchin, Loucheux, Hare, Bear Lake, Kaska, Tahltan, Tsetsaut, Slave, Yellowknife, Chipewyan, Sekani, Beaver, etc. The kinship categories represented are compared in tabular summary. Copy seen: DLC.

**45579. HOIJER, HARRY.** The chronology of the Athapaskan languages. (International journal of American linguistics, Oct. 1956. v. 22, no. 4, p. 219-

32, tables.) 16 refs.

Discusses the glottochronology of 15 Athapaskan languages, including Beaver, Carrier, Chipewyan, Hare, Kutchin, Sarcee, using 100 common words (cf. No. 37676). The time of their separation from main stock and their interdivergence are computed: t (time of separation) = log C (percentage of cognates shared) ÷ log r<sup>2</sup> (index of retention, i. e. approx. 81 percent in 1,000 years). The results are analyzed and tabulated. The importance of geographical factors (distance, mountains, etc.) in linguistic divergences is noted, also the comparatively recent break-up of the Athapaskan group (1,300 to 500 years ago). Copy seen: DLC.

**45580. HOLAHAN, JAMES.** Pendulous gyro points way to true North. (Aviation age, Apr. 1956. v. 25, no. 4,

p. 82-87, illus., diagrs.)

A practical gyro compass for aircraft use is described. The subminiature gyro weighs 23 lb. and measures about 8 in. in diameter and 10.5 in. in height. The sensitive element is essentially a fluid-suspended gyro, and no bearings of any type are used, which eliminates friction torques. Three modes of operation are possible: gyro, slaved, and directional gyros. The directional gyro mode is especially useful above 80° lat. The drift rate in this mode is only one-tenth degree per hour. Copy seen: DLC.

45581. HOLCOMBE, RICHARD M. Similarities and contrasts between the arctic and antarctic marine climates. Washington, D. C., U. S. Hydrographic Office, 1956. 13 p. Mimeographed. 12 refs.

Compares physical features (topography, area of pack ice) of the two regions, surface temperature, cyclones, regions of divergence and convergence, precipitation, gale frequency; also upper air wind and temperatures (based on data from Little America, Antarctica, and from Alert, Ellesmere Island).

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**45582. HOLDEN, R. L.** Raytheon facilities: environmental test laboratory. (Electronic progress, Sept.-Oct. 1956.

v. 1, no. 2, p. 8, illus.)

Contains a brief description of Raytheon test chamber facilities currently in use. Temperature limits range as high as -73° to +120° C. Some extreme weather conditions are given at which ground equipment may be exposed. These include operating temperatures from -80° to +125° F., snow loads up to 40 lb./sq. ft., and penetration and abrasion of blowing snow crystals 1-3 mm. in diameter with a wind of 40 m. p. h. and 0° F. temperature.

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45583. HOLGERSEN, HOLGER. Bird-banding in Norway 1954; report no. 5. Stavanger, June 1955. 40 p. (Stavanger Museet. Sterna no. 21)

Contains tables of statistical data for 1954 on birds ringed in Norway by the Stavanger Museum, Government Game Investigation Service (Statens Viltundersøkelser), and a few other institutions, followed by list of recoveries. Some specimens were ringed or recovered in the northern Scandinavia and Spitsbergen: 525 pink-footed geese, 73 pale-breasted brants and 23 barnacle geese were ringed by R. Webbe of the Sherborne-Cambridge Spitsbergen Expedition of 1954. Six recoveries of brants and twenty of pink-footed geese were reported to Dec. 31, 1954. Earlier reports (not numbered) are listed as No. 35282, 44136.

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45584. HOLGERSEN, HOLGER. Birdbanding in Norway 1955; report no. 6. Stavanger, Nov. 1956. 47 p. (Stavanger Museet. Sterna, no. 26, bd. 2, hefte 1.)

Data on birds ringed by the Stavanger Museum, the Government Game Investigation Service (Statens Viltundersøkelser) and some other institutions, are tabulated, and recoveries listed. Some specimens were ringed or recovered in the northern regions of Scandinavia,

Spitsbergen and Greenland (69 birds were ringed by the Tromsø Museum).

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45585. HOLGERSEN, HOLGER, and J. F. WILLGOHS. First breeding of the black-tailed godwit, Limosa limosa (L.), in Norway. Tromsø, Tromsø Museum, 1956. 8 p. 2 illus., text map. (Astarte, no. 13.) 10 refs.

The breeding area of a pair of L. limosa found on July 21, 1955 at Andenes on north Andøya, Nordland (ca. 69°18' N. 16°07' E.) is described; two young were noted later. Twelve other species found in the same area are listed. It is the first observation of the godwit in northern Norway and the first breeding record for Norway.

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**45586.** HOLGERSEN, HOLGER. On the type-locality *Phylloscopus collybita abietinus* (Nilsson). (Stavanger Museet. Sterna, Jan. 1955. no. 18, p. 1–4.)

Contains systematic notes and distributional data on migrating chiffchaffs, breeding in coniferous woods as far north as Saltdalen (67° N.) and ranging from 58° to 67° N. As a more restricted type-locality, the author proposes Stjørdalen in Nord-Trøndelag from which breeding specimens were available.

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45587. HOLGERSEN, HOLGER, Skotske grønlandsgjess i Nord-Norge. (Naturen, Nov. 1950. Årg. 74, nr. 11, p. 340–42.) Text in Norwegian. *Title tr.*: Scottish Greenland geese in north Norway.

Banded Greenland geese, which winter in Tayfield, eastern Scotland, have been identified at several places on the north Norwegian coast and are believed to nest in that region. Copy seen: DLC.

HOLLANDER, DAVID H., see Toyokawa, K., and D. H. Hollander. Variation in sensitivity of Escherichia coli to freezing damage . . . 1956. No. 48449.

45588. HOLLINGSWORTH, DOROTHY F., and others. The use of dehydrated foods in field conditions. (Polar record, Sept. 1956. v. 8, no. 54, p. 268-69.) Other authors: A. M. Lowden and E. J. Rolfe.

Dehydrated foods from the Experimental Factory of the British Ministry of Agriculture were supplied to 13 expeditions during June 1953-Aug. 1954. The participants (87 in all) walked, sledged,

climbed, etc., in various polar or mountainous localities. All parties used, though in differing amounts and none exclusively, the dehydrated foods. The latters' dietary value is not assessed, but palatability, variety, etc. is stressed. The foods are listed, with comment of users, also information on preparation and packaging. Copy seen: DLC.

HOLLINGSWORTH, S. E., see Robin, G. de Q., and others. The future . . . glaciology . . . 1956. No. 47616.

HOLLOWAY, R. J., see Brauer, R. W., and others. Temperature . . . radio-colloid uptake . . . isolated . . . liver. 1956. No. 44123.

45589. HOLM, ÅKE, 1909— Notes on arctic spiders of the genera Erigone Aud. and Hilaria Sim. (Arkiv för zoologi, Nov. 12, 1956. ser. 2, bd. 9, no. 20, p. 453–68, 5 illus., plate.) 27 refs.

Contains systematic notes and distributional data on Erigone arctica and its five subspecies, arctica, sibirica, palaearctica, maritima and soerenseni n. subsp. (South Greenland); they occur in arctic Canada, Greenland, Spitsbergen, northern Scandinavia and arctic Siberia. Hilaria glacialis and H. vexatrix from Greenland, arctic Canada and Alaska, are also discussed.

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45590. HOLM, ÅKE, 1909— . Spindelfaunan inom Abisko Nationalpark: Spindlar: Araneae. (Svenska vetenskapsakademien. Skrifter i naturskyddsärenden, 1931, nr. 19, p. 1–9.) Text in Swedish. *Title tr.:* Spiders within Abisko National Park: Araneae.

Lists 98 species in 13 families on the basis of approx. 2,500 specimens collected in 1928–1930 in the region of western Torneträsk and Gällivare, northern Sweden. Of the 86 species found within the Park, eight are new to Sweden. Forms found only outside the park are indicated, and location given.

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45591. HOLM, JOHAN CHR. Grønlandske kreditsedler. (Grønland, Oct. 1956, nr. 10, p. 372–79, illus.) Text in Danish. *Title tr.:* Greenland notes of credit.

Reviews history of credit notes in Greenland, and describes the various issues (dates, denomination, etc.). The first series was probably issued in 1801.

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HOLM, JOHANNES, 1902-, see Denmark, Grønlands Styrelse. Beretning
. . . Laegeekspedition 1947-48. 1949.
No. 44594.

HOLMES, CHAUNCEY DePEW, 1897-, see Colton, R. B., and C. D. Holmes. Geomorphology...Nunatarssuak. 1954. No. 44427.

45592. HOLMES, ROBERT WILLIAM. The annual cycle of phytoplankton in the Labrador Sea, 1950–1951, Kingston, R. I., 1956. 74 p., 2 text maps, graphs, diagrs., 2 tables. (Rhode Island. University. Narragansett Marine Laboratory. Biological Oceanography Project. Reference no. 56–15, Technical report no. 8.) 49 refs. Also pub. as: Yale University. Peabody Museum of Natural History. Bingham Oceanographic Collection. Bulletin, Mar. 1956. v. 16, article 1.

Phytoplankton samples collected at Ocean Weather Station B (56°30' N. 51° W.) approx. fortnightly during 1950-1951 at 0, 25, 50, and 100 m. were given to the author for study. Zooplankton from the same location were described by W. V. Kielhorn, No. 30053. Annual cycles of diatoms, "flagellates," dinoflagellates, and ciliates are discussed individually, and a species list (approx. 120) is given with remarks on occurrence and taxonomy. Almost continuous coexistence of allochthonous and autochthonous elements is disclosed. The most significant allochthonous contribution appears to be made by the West Greenland and Irminger Currents: contribution from Labrador Current seems relatively unimpor-Diatom and dinoflagellate cycles are closely parallel, both groups exhibiting blooms in June and Sept. Smaller phytoplankton species (nannoplankton) are a substantial part of the total population. Major changes in phytoplankton abundance probably result from changes in solar radiation, stability, zooplankton, Copy seen: DN-HO. and nutrients.

45593. HOLMSEN, PER, 1911— . Hyolithus-sonens basale lag i Vest-Finnmark. (Norway. Norges geologiske undersøkelse, 1956. nr. 195, Årbok 1955. p. 65–72, 2 illus., sketch map, section.) 5 refs. Text in Norwegian. Summary in English. Title tr.: Basal layers of the Hyolithus-zone in West Finnmark.

"Hyolithus-zone" denotes the autochthonous lower Cambrian substratum of the Caledonides, which can be followed from Laksefjord, North Norway, south through Finland and northern Sweden. The area described is approx. 69°25'-35' N. 23°-24° E., south of Altafjord. The four members of the formation (quartzite and/or conglomerate, lower shale, sandstone, upper shale) are present in almost every section. Total thickness of the zone in this area varies from 50 m. in the west to 100 m, in the east. In several places the basal member of the formation does not lie directly upon the Precambrian basement, but is underlain by a thin bed of Eo-Cambrian tillite presumed to be of continental origin. term "Varanger ice age" is proposed for the geologic age of this tillite.

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HOLMSEN, PER, 1911—, see also Norsk geologisk tidsskrift. Second Nordic Geologie . . . meeting . . . 1956. No. 47080.

HOLTEDAHL, HANS, see Norsk geologisk tidsskrift. Second Nordic Geologic . . . meeting . . . 1956. No. 47080.

HOLTEDAHL, OLAF, 1885—, see Asklund, B. H. V. Norges geologi och fjällkedjeproblemen . . . 1955. No. 43766.

45594. HOLTKAMP, DORSEY EMIL, 1919-, and others. Effect of known metabolic antagonists on body-temperature control of intact rats. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 439.) Other authors: A. E. Heming, D. B. Huntsman, M. C. Doggett and A. R. Maass.

Contains information on temperaturelowering effects of the following substances: sodium malonate; potassium cyanide and sodium azide. The tests were made at room temperature; dosage and degree of resultant drop in temperature are presented. Copy seen: DLC.

HOLTVED, ERIK, 1899- , see Geografisk tidsskrift. Nationalmuseets etnografiske Samling 1955. 1956. No. 45064.

HOLTVED, ERIK, 1899-, see also Harp, E. Arctic, 2. 1956. No. 45446.

45595. HOLTZSCHERER, JEAN-JACQUES. Seismic investigations in Inglefield Land. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953. pub. 1954. p. 267-99, 2 maps, graphs 1 fold., tables.) 15 refs.

The results of seismic refraction and

reflection measurements are reported in detail, and the equipment and computation methods used are described. Studies made in the firn-covered area between Camp Alpha and the dome S. of Inglefield Land (northwest Greenland) on the variations in wave velocity as a function of the distance of propagation revealed the presence of two distinct zones; a lower layer with a velocity of 12,600 ft./sec. and an upper layer approx. 300 ft. thick with a variable and higher The high-velocity layer invelocity. dicates that the entire sector is in an accumulation zone and therefore cannot be completely melted in summer. The firn limit of the dome is located about three-four mi. from the edge of the ice cap. Solid ice was found in this zone under two ft. of melting snow. The absence of crevasses in the area is attributable to the relatively flat bedrock. The ice thickness at different points varies from 690-4,500 ft. Derived values of velocity, time-distance graphs, velocity vs. depth, examples of initial and reverse direction, multiple reflections, and cross sections of the icecap are included.

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HOLTZSCHERER, JEAN-JACQUES, see also Kühn, A. Neue Feststellungen . . . Mächtigkeit . . . Inlandeises. 1956. No. 46152.

45596. HOMÉN, THEODOR. Über die Bodentemperatur in Mustiala. Helsingforsiae, 1897. 2 p. 1., 184 p. 3 fold. charts, tables. (Finska vetenskaps-societeten, Helsingfors. Acta Societatis scientiarum fennicae, t. 21, no. 9.) Text in German. *Title tr:* Soil temperature in Mustiala.

Soil temperature observations for the period 1885-91 made daily since 1885 at the agricultural institute Mustiala, Finland (60°49′ N. 23°47′ E.) are tabulated. Data include daily measurements made at depths of 0.5, 1.0 and 2.0 meters (a few at 0.15 and 0.30 meters) in soil covered with grass, and with pine, birch and spruce tree growth. Corrections for the monthly means are tabulated and annual extremes, onset of extremes and amplitudes are discussed in detail. The influence of rain and snow-cover on the soil temperature is described and the soil temperature in Mustiala and Heinäis is compared with that of Pavlovsk and St. Petersburg (Leningrad).

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45597. HONIGMANN, JOHN JOSEPH, 1914- . The Attawapiskat Swampy Cree; an ethnographic reconstruction. (Alaska. University. Anthropological papers. Dec. 1956. v. 5, no. 1, p. 23-82.) 38 refs.

Writer's purpose is to delineate culture and way of life of Indians of northern Ontario, west of James Bay, south of the Hudson Bay, before they were affected by contact with Europeans (who entered the area in early 18th century). Data on the ancient culture patterns were collected among the Swampy Cree at Attawapiskat trading post and mission between 1947 and 1955, with the aid of (mainly) two native informants, George Kiiookii and Jacob Atooket. These Cree formerly ranged from the Kapiskau River (52°30′ N.  $83^{\circ}-85^{\circ}$  W.) north to Hudson Bay and their aboriginal lifeways persisted longer inland along the Sutton River, than on the James Bay coast. Their nomenclature, environment, basic tools and techniques, calendar, food, hunting and fishing, housing, clothtransportation and travel are treated in turn. Recreation, social relations, kin behavior, religious concepts and observances, shamanism, healing and sorcery are described as they persist in the informants' recollections and in contemporary practice.

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HONIGMANN, JOHN JOSEPH, 1914– , see also Arctic circular. Anthropological studies . . . Attawapiskat Indians. 1956. No. 43723.

**45598. HONSINGER, FRED.** Bovine disease in the Territory. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub.* 1956, p. 150.)

Summary of paper, showing TB under control (since 1948), undulant fever still a problem; other diseases are noted.

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HOOD, A. D., see Canada. Dept. of Transport. Navigation conditions . . . Hudson Bay route . . . 1955. 1956. No. 44261.

45599. HOOPER, SAMUEL LEIGHTON. The discovery of Wrangel Island. San Francisco, 1956. 27 p. illus., port., text map. (California Academy of Sciences. Occasional papers, no. 24.)

Contains biographical sketch, by his son, of Capt. Calvin Leighton Hooper (1842–1900) of the U. S. Revenue Cutter Service, noting his northern voyages and service with the Bering Sea Patrol, 1880-1896. The voyage of the *Corwin* on the 1881 Patrol and to search for the missing *Jeannette* Expedition in Chukchi Sea is recounted in detail (p. 7-27). Landing was made on Wrangel Island on Aug. 12, 1881.

\*\*Copy seen: DGS.

45600. HOOSE, HARRY MEADE, 1919— October gales in Southeast Alaska. Washington, D. C., U. S. Weather Bureau, Feb. 1955. 12 p. 6 charts, table. Mimeographed. 2 refs.

"The most hazardous storms to affect the fishing fleets . . . are the Oct. cyclones which bring E or SE gales after periods of relatively good weather. Two types are recognized: (1) shallow, rapidly developing and moving cyclones which pass northeastward over the Juneau area into Canada; and (2) deep cyclones which move into the Juneau, Cape Spencer area and stall or weaken while a new center forms in the lee of the Cordillera. Type 1 begins as a wave on a cold front or occlusion; type 2 is usually the first or second occluded wave of a series. Characteristics of four type 1 storms and four type 2 storms in 1950-53 are described and tabulated, and six synoptic charts for a type 1 storm (Oct. 6-8, 1951) are presented and analyzed."-Meteorological abstracts & bibliography, Feb. 1956.

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45601. HOOSE, HARRY MEADE, 1919- . Search for an objective method of forecasting precipitation in Southeastern Alaska. Washington, D. C., U. S. Weather Bureau, Feb. 1955. 9 p.

2 tables. Mimeographed.

"Several parameters were tested to find best objective method . . . especially at Juneau. The most promising variables for spring, summer and fall were found to be: 1, 850 mb. flow (height of 850 mb. surface at Annette, Alaska minus height at Yakutat (ANN-YAK)) indicating onshore flow; 2, potential temperature change in past 24 hours at tropopause indicating advection of cold tropical or warm arctic air; 3, advection at 700 mb.; and 4, persistence (precipitation or no precipitation at time of forecast). Stability and 24-hour temperature change at 700 mb. made little difference. Forecasts verified 85 percent, against 69 percent for official forecasts."-Meteorological abstracts & bibliography, Apr. 1956. v. 7, no. 4, p. 447.

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**45602. HOPE, EARL R.** Spiral patterning of solar corpuscular precipitation. (Nature, Mar. 24, 1956. v. 177, p. 571–72, illus.) 6 refs.

Plots of radio blackout distribution (F-layer blackout) in the North American and North Atlantic area are shown to agree with isochrons of the morning maximum of magnetic disturbance in the arctic region. The excellent agreement can be explained by assuming a diurnally rotating spiral of solar corpuscular precipitation.

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HOPE, EARL R., see also Akkuratov, V. I. Aeronavigation . . . high latitude flying . . . 1951. No. 43534.

HOPE, EARL R., see also Grave, N. A. Ob arkheologicheskof datirovke . . . gidrolakkolitov . . . 1956. No. 45209.

HOPE, EARL R., see also Gudkovich, Z. M. Depth soundings. 1956. No. 45329.

HOPE, EARL R., see also Gudkovich, Z. M. Water-temp. observ. 1956. No. 45331.

HOPE, EARL R., see also Kalitin, N. N. What is to be expected . . . actinometric program . . . 1956. No. 45861.

HOPE, EARL R., see also Korneva, L. A. O nesimmetrichnol . . . osi . . . geomagnitnogo polía . . . 1956. No. 46084.

HOPE, EARL R., see also Krasovskii, V. I. Izluchenie neba i poliarnykh sianii . . . 1956. No. 46116.

HOPE, EARL R., see also Nikitin, M. M. Organization . . . oceanographic work. 1956. No. 47032.

HOPE, EARL R., see also Okhotsimskafa, M. V. Sezonnoe raspredelenie . . . kolebanit . . . 1956. No. 47157.

HOPE, EARL R., see also Piotrovich, V. V. Vnutrivodnoe obrazovanie l'da. 1956. No. 47364,

HOPE, EARL R., see also Pudovkin, I. M. Mag. variations. 1956. No. 47472.

HOPE, EARL R., see also Savarenskii, E. F. Izuchenie seismichnosti . . . 1956. No. 47805.

HOPE, EARL R., see also Sel'kin, D. I. Primenenie . . . ustraneniâ moroznogo pucheniâ gruntov. 1955. No. 47882.

HOPE, EARL R., see also Sugaya, J. Congelation-structure and frost-heaving ratio . . . 1956. No. 48248.

HOPE, EARL R., see also Tokarev, V. A. O seïsmichnosti . . . 1956. No. 48428.

HOPE, EARL R., see also Zaïtsev, F. K. Instrumenty dlia zimnikh rabot. 1938. No. 49032.

**45603.** HOPKINS, CLEVELAND. Meteorological factors affecting radar performance. (*In:* Alaskan Science Conference... 1953. Proceedings, *pub.* 1956, p. 123.)

Abstract of paper in which a number of illustrations are presented that relate the atmospheric index of refraction to the strength of the radiated field.

Copy seen: DGS.

45604. HOPKINS, DAVID MOODY, 1921-, and W. S. BENNINGHOFF. Evidence of a very warm Pleistocene interglacial interval on Seward Peninsula, Alaska. (In: Alaskan Science Conference... 1953. Proceedings, pub. 1956, p. 163.)

Fossil flora interbedded with glacial and periglacial deposits suggest that early Quaternary interglacial intervals in northwest Alaska were characterized by much warmer and more humid climate than at present; and that early glacial climates had longer, warmer summers and much heavier winter precipitation. Evidences for early Pleistocene climates have not been reported from other parts of Alaska.

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45605. HOPKINS, DAVID MOODY, 1921-. Structure and history of a basalt lava flow in Alaska. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 237.)

Lost Jim Lava flow is a pahoehoe flow of olivine basalt, one of a series of Quaternary age at Imuruk Lake, Seward Peninsula (65°35′ N., 163°10′ W.). Flow, emitted largely during early and late intense phases of a single eruption, is described. History of the eruption and structure of the immediate area are briefly noted in this abstract of paper presented at the Conference.

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45606. HOPKINS, MILTON, 1906—. Arabis in eastern and central North America. (Rhodora, Mar.-May 1937. v. 39, no. 459-61, p. 63-98, 106-48, 155-86, plates 457-58, 31 text maps.) Issued also as: Contrib. from Gray Herbarium of Harvard University, no. 116.

Contains historical notes, diagnostic characters of this herbaceous genus, and keys to the species, varieties and forms; 18 species also numerous varieties and forms are described, with critical notes and lists of localities. At least seven species and some varieties and forms native to Alaska, northern Canada and Greenland are included. A. pycnocarpa n. sp. and its variety typica are recorded in Yukon Territory and Mackenzie District.

Copy seen: DA.

45607. HOPKINSON, R. G. Glare discomfort and pupil diameter. (Optical Society of America. Journal Aug. 1956. v. 46, no. 8, p. 649–56, illus., tables.) 13 refs.

The reported study has shown that the diameter of the pupil is not directly related to the sensation of discomfort resulting from a bright light source. Other factors, especially "the illumination received at the eye" determine pupil diameter. The more concentrated "the source producing illumination at the eye," the greater the pupil contraction.

\*\*Copy seen: DNLM.\*\*

HOPPE, GUNNAR, 1914-45608. and G. H. LILJEQUIST. Det sista nedisningsförloppet i Nordeuropa och dess meteorologiska bakgrund: 1, Inlandsisen och dess klimatologiska miljö av G. Hoppe. 2, Meteorologiska synpunkter på istidsproblemet av G. H. Liljequist. (Ymer 1956. årg. 76, häfte 1, p. 43-74, illus., maps.) Approx. 40 refs. Text in Swedish. Summary in Title tr.: The course of the English. latest glaciation in northern Europe and its meteorological background: 1, The inland ice and its climatological setting, by G. Hoppe. 2, Meteorological viewpoints on the ice age problem, by G. H. Liljequist.

The last ice age began in the mountains of Scandinavia under conditions, as now, of prevalent westerly winds. In time, with increasing frequency of southeasterly winds, the ice culmination, and with it the ice divide, moved eastwards towards the Gulf of Bothnia. The meteorological evolution was a gradual return, with temporary regressions, to conditions similar to those of the present time. The Sarek region (67°27′ N. 17°40′ E.), which has at present the highest pre-

cipitation and the greatest number of glaciers in Sweden, was during the final phase of the glaciation a center of marked glacial activity. This final phase is treated in some detail, partly on the basis

of new observational material.

The beginning and end of an ice age are assumed, in the second article, to be caused by an increase and decrease, in amount of cloud in tropical and subtropical regions. This results in changes in the total albedo, i. e. gain in radiation energy, and therefore in warm air production in these regions. With changes in the radiation balance of the atmosphere and the earth's surface, the circulation patterns of atmosphere and sea change, and in turn lead to other changes, which may even further stress the variations which have occurred, until a state of quasi-equilibrium is reached. changes in cloudiness may be caused by variations in the output of ultraviolet radiation from the sun which may lead to an increase in the number of condensation or sublimation nuclei in the atmosphere. Copy seen: DLC.

HOPPING, GEORGE R., see Hopping, R., and G. R. Hopping. New Coleoptera . . . 1929. No. 45609.

45609. HOPPING, RALPH, and G. R. HOPPING. New Coleoptera from western Canada. (Canadian entomologist, Nov. 1929. v. 61, no. 11, p. 251-53, illus.) Podabrus fiseilis from Alaska is included. Copy seen: DLC.

45610. HORATZ, KARL. Die Vorteile der potenzierten Narkose mit Abkühlung. (Kältetechnik, 1954. Sonderheft 1, p. 28-31, illus.) 3 refs. Text in German. Title tr.: Advantages of potentiated narcosis with hypothermia.

Contains general information on temperature maintenance; the pharmacodynamic hibernation; hypothermia and its physiological aspects in animals and man: methods of producing hypothermia; ap-

paratus used for producing it.

Copy seen: DNLM.

45611. HORN, GUNNAR, 1894-1947. Karsthuler i Nordland. Oslo, 1947. 77 p., 31 illus., 21 plates, 2 text maps, (Norway. Norges geologiske undersøkelse. Publication nr. 165.) 67 refs. Text in Norwegian. Summary in English. Title tr.: Karst cavities in Nordland.

Marble deposits of magnitude sufficient

for the local development of karst phenomena are interbedded in the Cambro-Silurian mica schists in Nordland These solution phenomena, both north and south of the Arctic Circle near Svartisen glacier are not to be confused with caves developed at sea level by erosive processes. Reasons are given for dating their development to the glacial period. Plant growth in the caverns is mentioned.

Copy seen: DGS.

45612. HORNSEY, SHIRLEY. tection from whole-body x-irradiation afforded to adult mice by reducing the body temperature. (Nature, July 1956. v. 178, no. 4524, p. 87, illus.) 5 refs.

Account of experiments with animals made hypothermic to 0-1° C., then irradiated, with revival starting five minutes after irradiation. Doses ranged between 900 and 1,500 r. and resulted in 100 percent survival at thirty days. There was no survival at thirty days in not cooled controls given 900 r. or more. Copy seen: DNLM.

45613. HOROTH, V. L. On-the-spot report on Alaska and Canada. (Magazine of Wall Street, Oct. 13, 1956. v. 99, no. 2, p. 71-73+, illus., text map, 2 tables.)

Brief popular account of author's observations in British Columbia and Alaska during a three-week trip in summer 1956. Notes high cost of living and transportation difficulties; effects of government defense spending in Alaska; economic conditions and potentialities for fisheries, forest industries, mineral resources, hydroelectric power. Copy seen: DLC.

HOROWITZ, ALAN S., see Fernald, A. T., and A. S. Horowitz. Bedrock geology . . . Nunatarssuak. 1954. No. 44872.

HOROWITZ, H. H., see Fischl, F. B., and others. Cold starting with V. I. improved . . . oils. 1956. No. 44904.

45614. HORVATH, STEVEN MI-CHAEL, 1911-, and G. B. SPURR. Effects of hypothermia on general metabolism. (In: National Research Council. Division of Medical Sciences. physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 8-25, illus.) 67 refs.

A review of metabolic processes during development and maintenance of hypothermia. Temperature distribution and gradients, heat production and its physiology, heat exchange, metabolism of hypothermia, changes in electrolytes, acid-base balance and body fluids, are discussed. Suggestions for "more precise experimental approach" to problems of temperature-metabolism conclude the account.

Copy seen: DLC.

45615. HORVATH, STEVEN MI-CHAEL, 1911-, and others. Metabolic cost of shivering. (Journal of applied physiology, May 1956. v. 8, no. 6, p. 595-602, illus., tables.) 22 refs. Other authors: G. B. Spurr, B. K. Hutt, and L. H. Hamilton.

Contains a study of shivering and its relation to skin and reetal temperatures,  $O_2$ —consumption, respiratory minute volume and quotient and  $CO_2$  production in nine male adults exposed to an ambient temperature of  $-3^{\circ}$  C. The stimulus to shivering was found to be of cutaneous origin and its pattern intermittent in nature. The value of mean skin and rectal temperatures in calculating mean body temperature is analyzed. The shivering is estimated to have been about 11 percent efficient in protecting from total heat loss.

Copy seen: DLC.

45616. HORVATH, STEVEN MI-CHAEL, 1911-, and others. Reactions of nude men to a mild cold exposure. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 96.) Other authors: G. B. Spurr, B. K. Hutt, and L. H. Hamilton.

Observations on ten nude men exposed for 12-hr. periods to 15° C. and a relative humidity of 35 percent. There was no drop in rectal temperature; but a fall in mean skin temperature and an increase in heat production were recorded.

Copy seen: DLC.

HORVATH, STEVEN MICHAEL, 1911-, see also Spurr, G. B., and others. Temperature gradients . . . hypothermic dog. 1956. No. 48156.

HOSHI, TAKESHI, see Matsuda, K., and others. Recovery of membrane potential . . . 1956. No. 46659.

45617. HOSHIKO, TOMUO, 1927—. Effect of temperature on sodium reabsorption in the perfused bullfrog kidney. (American journal of physiology, June 1956. v. 185, no. 3, p. 545–48, illus.) 8 refs.

Report of perfusion experiments with a PVP-Conway fluid at temperatures of

6–27° C. At lower temperatures the urine sodium concentration was initially high and rose less rapidly than at higher temperature. The initial sodium reabsorption rate was lower and fell more slowly than at high temperature.

Copy seen: DNLM.

45618. HOSKINSON, ALBERT J. Geodetic operations in the United States and in other areas through international cooperation. January 1, 1939 to December 31, 1953. Washington, D. C., U. S. Govt. Print. Off., 1954. v, 37 p. 27 maps, table. (U. S. Coast and Geodetic Survey. Special publication no. 320.)

Geodetic activities carried out by various U. S. agencies during 1939–1953 are described: the most outstanding was the extension of geodetic control into the interior of Alaska during World War II. The triangulation net of Alaska as well as gravity base and astronomic-geodetic stations are mapped. U. S. Air Force astronomic stations in Canada and Alaska are also mapped.

Copy seen: DLC.

45619. HOTTES, FREDERICK CHARLES, 1899-. Two new species of Cinara from Alaska; Aphidae. (Biological Society of Washington. Proceedings, Dec. 31, 1956. v. 69, p. 227-29, illus.)

Contains description of two aphids, C. bonita and C. bonica n. spp., both collected in summer of 1955 by G. O. Schumann on Gulkana River, Alaska. Hosts are most likely white spruce, Picea glauca, and possibly, black spruce, P. mariana.

Copy seen: DA.

45620. HOUGH, GARRY de NEU-VILLE. A third American species of Cynomyia. (Entomological news, Sept. 1898. v. 9, no. 7, p. 165-66, illus.)

Contains a description of C. hirla n. sp. found in a small collection of Muscidae made by Mr. T. Kincaid on St. Paul's Island, Alaska, in summer 1898.

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45621. HOUGH, GARRY de NEU-VILLE. Two new American species of Cynomyia, a study in chaetotaxy. (Entomological news, May 1898. v. 9, no. 5, p. 105-111, 2 illus.)

Includes a description of C. americana n. sp. based on study of 244 specimens, male and female among them four from Greenland, referred with a doubt, to this species. Copy seen: DA. **45622. HOUSTON, R.** University Peak, St. Elias Range. (American alpine journal, 1956. v. 10, no. 1, issue 30,

p. 131.)

Note on first ascent of this 15,030 ft. peak (61°20′ N. 141°48′ W.) on June 19–20, 1955, by K. Hart, L. Blumer, S. Brooks, T. Kelley, N. Sanders, and G. Reynolds. "Mt. McCall" (13,500 ft.) and Mt. Bona were also climbed by several members of the party.

Copy seen: DGS.

45623. HOWARD, ARTHUR D., and D. D. SMITH. Studies bearing on erosion surfaces in the United States and Canada, 1952–1955: a review. (In: International Geographical Congress. 18th, Rio de Janeiro, 1956. Eighth report of the Commission for the study and correlation of erosion surfaces around the Atlantie: IV, researches in North America, p. 54–64.) 25 refs.

Brief reviews of 14 papers, including (p. 59-60) that by Bird on postglacial marine submergence in Keewatin District and the islands in northern Hudson Bay (Arctic Bibliography, No. 33600).

Copy seen: CaMAI.

45624. HOWARD, FRANK LEE, 1913-, and others. Automotive antifreezes. Washington, D. C. U. S. Govt. Print. Off., July 26, 1956. iv, 23 p. illus., diagrs., table, map (U. S. National Bureau of Standards. Circular 576. Supersedes Circular 506). 191 refs. Other authors: D. B. Brooks, and R. E. Streets.

Describes the various classes of antifreezes, provides information on their identification, relates them to technical performance requirements, and gives technical data on corrosion that may result from their use. The extensive bibliography (191 refs.) is provided with index by subject. Copy seen: CaMAI.

HOWARD, HENRY M., see Eldorado Mining & Refining Ltd. Eldorado enterprise. 1946. No. 44759.

HOWARD, RICHARD A., see Sørensen, J. Den arktiske . . . pionerer. 1956. No. 48105.

**45625. HOYTE, H. M. D.** Observations on reproduction in some small mammals of arctic Norway. (Journal of animal ecology, 1955. v. 24, no. 2, p. 412–25, tables.) 10 refs.

An investigation based on examination of sex organs of six species of shrews and voles trapped July 11-Aug. 23, 1953 at

Rosta (68°58′ N. 19°42′ E.). Length of breeding season, size of adults, size at maturity, litters, etc., are compared with those in the south. *Copy seen:* DA.

45626. HUBBARD, BERNARD ROSE-CRANS, 1888- . Geologic features of Aniakchak and Veniaminof craters, Alaska. (Washington Academy of Sciences. Journal, Jan. 19, 1931. v. 21, no. 2, p. 29-30.)

Notes discovery of Aniakchak (56°45′ N. 158°09′ W.) in 1922, its interesting features, geological structure of the crater itself, a minor cone called Vent Mountain, which rises 2,200 ft. above the main floor and Surprise Lake. Veniaminof Crater (58°12′ N. 150° W., 400 ft. elevation, 100 mi. circumference) contains a crater glacier that spills over the depressed rim. Copy seen: DLC.

45627. HUBBARD, GEORGE DAVID, 1871- . The geography of Europe. N. Y.,Appleton-Century-Crofts, 1952. 870 p. illus. maps, tables, graphs. Refs.

Textbook, dealing with northern, among other conditions in general chapters on geology, physiography, climate and prehistory of Europe, as well as in chapters on Norway, Sweden, and Finland (p. 399-462). A few northern Russian areas are treated (p. 509-524): the arctic coast in discussion of the tundra; the White Sea commercial region, including Arkhangel'sk, Kholmogory, and Onega; the lake region bordering Finland; the Severnaya Dvina, Mezen, and Pechora River basins in the account of the coniferous forest zone; and the Severnyy Ural Mts. Copy seen: DLC.

45628. HUBBS, CARL LEAVITT, 1894—, and W. I. FOLLETT. Lamna ditropis, new species, the salmon shark of the North Pacific. (Copeia, Sept. 12, 1947, no. 3, p. 194.) "Contributions from Scripps Institution of Oceanography, new ser. no. 331."

Contains a diagnosis of this fish, ranging in coastal waters from California through the Pacific Northwest and Alaska to Japan. Copy seen: DLC.

45629. HUBER, LOUIS R. Alaska's arctic airline; the story of Wien Alaska Airlines. (Esso air world, Mar.-Apr. 1956. v. 8, no. 5, p. 114-18, illus., map inside front cover.)

Development and growth of this Alaskan airline promoted by the four Wien brothers are described. Noel Wien was a pioneer pilot in Alaska from 1924. Several of his early exploits are recounted. The company started in 1929 and incorporated under the present title in 1936, has headquarters at Fairbanks. Its tourist trade is stressed.

Copy seen: DLC.

45630. HUBLEY, RICHARD CARLETON. The role of heat transfer by radiation in melting of glaciers. (American Meteorological Society. Bulletin, May 1956. v. 37, no. 5, p. 238.)

Abstract of paper presented at the 145th National Meeting of the Society, Seattle, June 12-14, 1956. From study of surface energy exchange data from the Juneau Icefield, Southeast Alaska, and glaciers in Washington State and Austria, author concludes (1) direct effect of variations in intensity of solar radiation as cause of variation in radiative transfer of heat to the glaciers is negligible; (2) relatively small changes in glacier albedoes lead to significant changes in the net energy transfer by radiation at the glacier surface; (3) on overcast days during the ablation season the net radiative heat transfer to snow and firn on glaciers in the Juneau Icefield may be as much as 50 percent greater than on a clear day. Copy seen: DGS.

45631. HUCKETT, HUGH CECIL, 1890 - A revision of the North American species belonging to the genus Pegomyia; Diptera: Muscidae. Philadelphia, Academy of Natural Sciences, 1941. 131 p. 9 plates. (American Entomological Society. Memoirs, no. 10.) 39 refs.

Contains synonymy, a discussion of the genus, a summary of faunal records, keys to the groups and species (males and females), followed by an annotated list of some hundred species, with synonyms, critical notes and records of specimens. At least twenty-five species are native to Alaska and northern Canada.

Copy seen: DLC.

45632. HUDSON, GEORGE ELFORD, 1907— . Breeding of the short-billed dowitcher on the Copper River Flats, Alaska. (Condor, May 1956. v. 58, no. 3, p. 238.)

Reports nest observed June 25, 1955, on Pete Dahl Slough, near Cordova, Alaska; only previous breeding record: Bristol Bay and Yakutat Bays in southern Alaska.

Copy seen: DSI.

45633. HÜBER, WILLIAM. Les glaciers. Paris, C. Ainé, 1867. viii, 265 p. 19 plates. Text in French. *Title tr.:* Glaciers.

Contains summary of literature on glaciers. General glacier characteristics, snow structure and firnification, glacier-ice formation, and glacier heat sources are discussed. The mechanics of glaciers and various theories on the subject are evaluated, and the causes of glacier variations are considered. The various types of crevasses, their causes and formation, and theories on the veined and banded structure of glacier ice are discussed. Material transport by glaciers is described.

Copy seen: MH.

45634. HUENE, R. Annual resupply to northern stations. (Canadian Army journal, Apr. 1956. v. 10, no. 2, p. 141–44, illus.)

Packing and shipping of food supplies from Edmonton to military radio stations in northwestern Canada are discussed briefly. Supplies for the Mackenzie River stations are sent by truck to Hay River, thence by barge as far as Aklavik. Athabasca River and Great Slave Lake Stations are supplied by rail to Waterways, then by barge. Supplies for Yukon stations are trucked via the Northwest Highway System to Dawson City and Mayo. During the 1955 season, 750,000 lb. of supplies were packed and shipped from Edmonton.

\*\*Copy seen: DLC.\*\*

45635. HUERTAS, JORGE, 1924—, and others. Effects of hypothermia on the electrical activity of the central nervous system. (Georgetown University Medical Center, Washington, D. C., Bulletin, Mar. 1956. v. 9, no. 4, p. 135-41, illus.) 11 refs. Other authors: A. Portera and E. A. Massulo.

Contains a review of current concepts of the problem, with additions on the authors' own work. It is concluded that the nervous system of non-hibernating animals behaves the same way during hypothermia, as that of hibernators; that electrical inactivity in hypothermia is reversible upon rewarming and is due to direct action of cold upon the neurons, and that cold affects first the highest nervous functions and finally the lowest.

\*\*Copy seen: DNLM.\*\*

45636. HUGHES, C. J. Geological investigations in East Greenland, part VI. A differentiated basic sill enclosed

in the Skaergaard intrusion, East Greenland, and related sills injecting the lavas. København, C. A. Reitzel, 1956. 27 p. illus., text map, diagr., table. (Meddelelser om Grønland. Bd. 137, nr. 2.) 12 refs.

In summer 1953, the author visited Skaergaards Halvø (68°09' N. 31°45' W.) as a member of the British East Greenland Geological Expedition, led by L. R. Wager and W. E. Deer. Field work was undertaken on the Skaergaard, Kangerdlugssuaq, and Kap Edvard Holm Tertiary igneous complexes. basic sills are described from the Skaergaard area . . . Two are intrusive into Tertiary lavas; parts of the third, the Basistoppen Raft, are preserved as a large inclusion in the Skaergaard gabbro complex. All three have a basal picrite resulting from gravity settling of early olivine crystals. The subsequent course of crystallization is described from the least altered sill, the Basistoppen Raft, in which the mineral sequence is closely similar to that of the Palisades Sill."-Author's abstract. Copy seen: DGS.

HUGHES, CARL W., see Riley, P. A., and others. Ventricular fibrillation . . . hypothermia; tolerance . . . dog . . . 1956. No. 47589.

HUGHES, CARL W., see also Riley, P. A., and others. Ventricular fibrillation . . . hypothermic dogs . . . thiopental . . . 1956. No. 47590.

**45637. HUGON, P.** Simplifying astronomical fix in polar areas. (International hydrographic review, Nov. 1950. v. 27, no. 2, p. 75–85, diagrs., map, tables.)

A simplified method for plotting a position line by reading off a triple-entry card for 10° of co-latitude is developed. The method is intended for aerial navigation but is applicable for nautical use. Specimen tables and examples of the use of this method are included.

\*Copy seen: DLC.\*

**HUGUENARD, P.** see Cahn, J., and P. Huguenard. Ibernazione artificiale . . . segale cornuta . . . 1955. No. 44232.

HUGUENARD, P., see also Laborit, H., and P. Huguenard. Essai . . . de l'optimum fonctionnel de l'homéotherme aux basses températures. 1956. No. 46193. HUGUENARD, P., see also Laborit, H., and P. Huguenard. Étude . . . conditionnement ionique . . . 1956. No. 46194.

HUKKINEN, VALMA, see Hukkinen, Y., and V. Hukkinen. Beiträge . . . Thysanopteren . . . 8. 1942. No. 45638.

45638. HUKKINEN, YRJÖ, and V. HUKKINEN. Beiträge zur Kenntnis der Thysanopteren Finnlands, 8. (Suomen hyönteistieteellinen aikakauskirja, 1942. v. 8, no. 3-4, p. 234-46.) Text in German. Titte tr.: Contributions to the knowledge of Thysanoptera of Finland, 8.

Contains a checklist of 14 species of thrips collected by W. M. Linnaniemi in the Petsamo region in 1928 and 1929, and ten obtained by H. J. Stammer in 1938 from the same area. These species are described in turn with data on taxonomy, habitat, distribution and feeding plants. Appended is a regional record of Finnish thrips (113 in all), 34 species in Finnish Lapland and 27 in the Kuusamo region.

Copy seen: DLC.

45639 HUKKINEN, YRJÖ. Blick auf die Erforschung der Thysanopterenfauna Finnlands, besonders ihrer schädlichen Arten. (Suomen hyönteistieteellinen aikakauskirja, 1942. v. 8, no. 1, p. 25–45.) 95 refs. Text in German. Title tr.: A survey of the investigations of Thysanoptera fauna of Finland, especially injurious species.

Contains an historical review of work on thrips over 260 years (since 1691), followed by a systematic list of 113 Finnish species of which at least 30 are native to Finnish Lapland, Kuusamo and the northern Ostrobottnia regions.

Copy seen: DLC.

45640. HUKKINEN, YRJÖ. Verzeichnis der Thysanopteren Finnlands. (Suomen hyönteistieteellinen aikakauskirja, 1935, v. 1, no. 3, p. 84–85, 4 illus.; 1936, v. 2, no. 1, p. 24–33; no. 3, p. 124–40, illus.) Text in German. *Title tr.:* A list of Thysanoptera of Finland.

Contains a systematic list of 88 species and several varieties and forms of thrips with distributional data; copious notes are added with occurrence and geograhic distribution, habitat, phenology, sexual distribution, morphology, etc. Two species are described as new. At least eight species are native to Finnish and Russian Lapland. Copy seen: DLC.

45641. HULBURT, EDWARD OLSON, . The International Geophysical Year, June 1957 through December 1958. [Washington, D. C.], U. S. Naval Research Laboratory, Nov. 1955. 37 p.

table. Mimeographed.

A survey of the background for the International Geophysical Year, accomplishments of the two International Polar Years 1882-83 and 1932-33, and advances made to 1955. Programs for 1957-1958 are given in meteorology, geomagnetism, aurora and airglow, ionosphere, cosmic rays, solar activity, longitude and latitude, glaciology, oceanography, seismology, gravity, rockets; stations to be established and their general locations are noted. Copy seen: DWB.

45642. HULLEY, CLARENCE CHARLES, 1907- . A historical survey of the Matanuska valley settlement in Alaska. (Pacific Northwest quarterly, Oct. 1949. v. 40, no. 4, p. 327-40.) 10 refs.

Describes the physical geography of the valley (61°29' N. 149° 16' W.), its history and settlement prior to 1935; selection of 200 families from northcentral U.S. to colonize it with Government support; the years 1935-1940 during which farms were being established, the difficulties resulting from climate, lack of markets, high prices, maladjustment of colonists; establishment of community government, farmers groups, etc. Prosperity came with the war years 1940-1945; by 1949, 40 of the original families remained, about a dozen having fully paid off their debts. colony is judged a limited success; continued Government aid may be necessary for settlers in Alaska.

Copy seen: DGS.

45643. HULTBLAD, FILIP. Flyttlapparna i Gällivare socken. Uppsala, Appelberg, 1936. 58 p. 5 illus., maps, tables. (Geographica, nr. 1) 65 refs. Text in Swedish. Summary in German. Title tr.: The migratory Lapps in Gällivare parish.

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Feed supply, weather, and insect pests determine reindeer migrations between upland and lowland locations. The historical development and commercial bases of reindeer husbandry are reviewed. The Lapps' adjustment to the sedentary Swedish population penetrating into lowland regions of Gällivare is discussed. Changed relationships between reindeer and fishing Lapps are explained, as fewer men migrate with herds. Lapp housing has changed with the general discontinuation of migration of whole families. Education makes the Lapp both competitive in non-agricultural activities and better able to maintain the nomadism necessary in reindeer husbandry. Census figures are given for both Lapps and reindeer in earlier and recent times. All of these changes indicate trends in a governed nomadism. Effects of Russian and Norwegian restrictions on Swedish Lapp nomadism are also considered.

Copy seen: DGS.

45644. HULTÉN, ERIC, 1894- . Cerastium glabratum Hartm., species restituenda. (Suomalainen eläin- ja kasvitieteellinen seura Vanamo. Tiedonannot (Archivum) 1955. v. 9, Suppl., p. 62-69, 3 illus.) 23 refs. Text in English. Title tr.: Cerastium glabratum Hartm., a reinstated species.

This arctic herb, recognized by most botanists as a variety glabratum of C. alpinum, is reinstated as a valid species. Four varieties of C. glabratum are recognized and described; three hybrids are also noted. The area of this species and its variety is northern Norway and Swedish, Finnish and Russian Laplands.

Copy seen: DLC.

45645. HULTÉN, ERIC, 1894- . The isolation of the Scandinavian mountain flora. (Societas pro fauna et flora fen-Acta, 1955. v. 72, no. 8, p. 1-22, nica.

30 text maps.) 49 refs.

Study of the geographic distribution of this flora, isolated from Central and South European mountains and connected with a world-wide area through the arctic and subarctic parts of Russia to the Urals. The mountain plants are grouped as: endemic plants; species completely isolated in Scandinavia; species with very wide gaps in their area; northern species (in six subgroups according to their gaps); and species occurring also on the mainland between southern Kanin and the Urals. For each of these five groups, species are listed, and ranges are mapped for 30 typical plants. About two-thirds of the mountain plants are more or less isolated in the Scandinavian mountains and Kola Peninsula. More than a hundred have gaps as wide as from Kola Peninsula to the Urals. The isolation may have been caused by lack of suitable habitats or by changes in the climate (glaciation). Copy seen: DSI. 45646. HULTKRANTZ, ÅKE. Swedish research on the religion and folklore of the Lapps. (Royal Anthropological Institute of Great Britain and Ireland. Journal, Jan.—Dec. 1955. v. 85, pt. 1–2,

p. 81-99.) Approx. 200 refs.

Fourth in a series of reviews of Scandinavian scientists' work on Lapps (cf. No. 20624, 22122, 24157). Emphasis is on present-day Swedish studies (to 1954) in the field of religion, including survival of paganism in superstitions, shamanism and its relationship to Siberian and circumpolar magic practices; also on folk science, customs, literature, art, and music. Urgency of field recording and contribution to be made by Lapp scholars are stressed. Copy seen: DLC.

HUMAN RELATIONS AREA FILES, New Haven, see Spiridonov, N. I. Snow people . . . 1954. No. 48152.

45647. HUME, DAVID M., and others. The effect of hypothermia on pituitary ACTH release and on adrenal cortical and medullary secretion in the dog. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 170-74, illus.) Il refs. Other authors: R. H. Egdahl and D. H. Nelson.

Hypothermia in traumatized dogs depressed the output of pituitary ACTH and of adreno-cortical secretion which were elevated by the trauma. Adrenal sensitivity to exogenous ACTH, as well as secretion of epinephrine and norepinephrine were sharply reduced by hypothermia. Cold exposure without hypothermia did not change adrenal responsiveness to ACTH.

Copy seen: DLC.

HUME, DAVID M., see also Egdahl, R. H., and others. Tolerance . . . dog to extreme cold . . . 1956. No. 44736.

HUME, DAVID M., see also Nelson, D. H., and others. Corticosteroid secretion . . . dog exposed to cold. 1956. No. 46978.

45648. HUME, GEORGE SHER-WOOD, 1893- . Petroleum geology of Canada. Ottawa, King's Printer, 1944. 64 p. text maps, cross-sections. (Canada. Geological Survey. Economic geology series, no. 14.) approx. 75 refs.

Includes geology of the Hudson Bay Lowland, south and west of James Bay and north to the Churchill River (p. 5-7); the Mackenzie River basin, including Great Slave Lake, Fort Norman, Arctic Red River, and Peel River areas (p. 51– 59). Oil development, if any, and estimates of oil possibilities are made.

Copy seen: DGS.

HUNT, R. P., see Bailey, W. B., and others. The horizontal distribution of temperatures . . . 1954. No. 43818.

45649. HUNTEN, D. M., and others. Auroral research. Final report under contract AF 19 (122)–152. Saskatoon, Canada, University of Saskatchewan, August 1956. 34 p. (U. S. Air Force. Cambridge Research Center. Geophysical Research Papers.) Other authors: A. V. Jones, and B. W. Currie.

Research work on aurora and airglow done at the University from Jan. 1950–July 1956 is summarized. The 33 scientific reports and five additional published papers related to the work are listed and abstracted. Results of the program are discussed under the following headings: equipment, identification and intensity of auroral emissions, infrared spectra of aurora and airglow, temperature measurements, hydrogen alpha observations, auroral height measurements, and investigations of atmospheric sodium.

\*\*Copy seen:\* DWB.\*\*

45650. HUNTER, HUGH EDWARDS, 1915— . Geology of the Melvin Lake area, Granville Lake mining division, Manitoba. Winnipeg, Queen's Printer, 1952. 16 p. fold. map 30 x 42 in., table. (Manitoba. Dept. of Mines and Natural Resources. Mines Branch. Publication 51-5.) 5 refs.

Map (scale 1 in.: 1/2 mi.) covers the area 57°00'-15' N. 100°07'30"-22'30" W., including northern Barrington Lake, about 140 mi. north of Sherridon. Field work was done in summer 1951. Physical features are described. All rocks are presumably Precambrian. The oldest are metamorphosed sedimentary and volcanic rocks which have been tightly folded and intruded by igneous rocks assigned to two periods. No correlation has been suggested between the oldest rocks of this and other areas of northern Manitoba. Regional structure is obscure. No major fold axes are indicated. Regional foliation is briefly discussed; also possible fault systems. No extensive mineralized zones were observed. Copy seen: DGS.

45651. HUNTER, J. G. Lost and found, a report on a flight from Copper-

mine. (Arctic circular, 1956. v. 9, no. 3,

p. 33-39.)

Recounts flight with two aircraft from Aklavik via Norman Wells to Coppermine, Sept. 26–28, 1956. Lost on the return flight (Sept. 28), the planes were forced to land on a lake in Great Bear Lake region at approx. 63°43′ N. 117°31′ W. Survival of the party (author, his wife, two pilots) until Oct. 18 when they were rescued is described.

Copy seen: DLC.

HUNTSMAN, DORIS B., see Holtkamp, D. E., and others. Effect . . . metabolic antagonists on body-temperature . . . rats. 1956. No. 45594.

45652. HURD, PAUL DAVID, 1921—, and F. A. PITELKA. The role of insects in the economy of certain arctic Alaskan birds. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 136–37.)

Summary of investigation (1952) into the food habits of the snow bunting, Lapland longspur and red phalarope, and the dependence of their nesting cycle upon the population trend, availability and utilization of these insects.

Copy seen: DLC.

45653. HURLEY, LLOYD A. Angioarchitectural changes associated with rapid rewarming subsequent to freezing injury. (U. S. Naval Medical Research Institute, Project NM007081.14.01. Research report, 16 Mar. 1956. v. 14, p. 237–57, illus.) 7 refs.

Account of experiments with rabbits having their hind legs frozen to a temperature of -15° and then rapidly rewarmed. About 70% of the affected tissue survived largely due to revascularization and development of anastomoses. The significance of the findings especially for the problem of cryopathy is discussed.

Copy seen: DNLM.

45654. HURST, MACLEOD EWART, 1897— Arsenic-bearing deposits in Canada. Ottawa, King's Printer, 1927. 181 p. text maps, graph, cross-sections, tables. (Canada. Geological Survey. Economic geology series, no. 4.) Approx. 100 refs.

Includes brief descriptions of occurrences in the Mayo and Whitehorse regions of Yukon (p. 29-33), and notes on the west coast of Hudson Bay at Corbett Inlet and between Chesterfield

and Rankin Inlets (p. 85); also Kjorisfjeld deposit in Skjömen Mts., Ofoten, North Norway (p. 161).

Copy seen: DGS.

HUSFELDT, ERIK, 1901—, see Hensen, A. T., and others. Measurement of coronary blood flow . . . krypton 85. 1956. No. 45425.

45655. HUSTEDT, FRIEDRICH, 1886— Die Bacillariaceen-Vegetation des Sarekgebirges. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939, Bd. 3, Botanik, Lfg. 6, pub. 1924. p. 525–626, diagrs., tables, 6 plates.) 46 refs. Text in German. Title tr.: The bacillarian vegetation of the Sarek Mountains.

A study based on the collection made by Dr. E. Lemmerman in 1907 in the Sarek Mountain region of northern Sweden. In two parts, the first, tax-onomic description (p. 532-87), deals with 265 forms of these largely microscopical algae, their morphology and anatomy, habitat, occurrence, related The succeeding, general, forms, etc. part (p. 588-615) contains discussion of general features of the diatom flora of the area, its biology and ecology, comparison with similar high mountain flora of Europe and Asia, its relation to postglacial deposits of Scandinavia, etc. An alphabetical list of the scientific names of the forms described is appended. Copy seen: CaMAI.

45656. HUSTICH, ILMARI, 1911—. Correlation of tree-ring chronologies of Alaska, Labrador and northern Europe. Helsinki, 1956. 26 p. maps, diagrs., tables. (Acta geographica 15, no. 3.) 27 refs.

Attempt to establish whether minimum years of radial growth coincide for the three areas. Biological background, material, and analysis are presented in turn for spruce (Picea). Published records and results of the author's studies in Labrador are used, the main series: 1946-1800 (table), supplemental data Minimum years in from 1800-1760. radial growth and consequently cold summers seldom occur simultaneously over the whole region. Over wide areas of the same continent and within the same climatic regions, certain minimum years occur simultaneously. Over larger areas and different continents, the spectacular minimum years cease to coincide, but a pattern of incidence may be observed in some cases. Minimum years are tabulated. Such studies may elucidate the problem of annual variation of summer climate in areas where meteorological records are scarce.

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45657. HUSTICH, ILMARI, 1911— . Lappland lever. Stockholm, Medén, 1946. 250 p., illus., map. Text in Swedish.

Title tr.: Lapland lives.

Important post-war changes in Lapland are recognized. Both people and place are affected by modifications in frontier life. The status of nomadism, biotic and commercial effects on nature, education and adjustments of local people, influx of new residents, and increased contacts with the world are summarized in comparisons between the Norwegian, Swedish, and Finnish Lapp districts. Mining, fishing, forestry, and agriculture are considered. With a fourth of the workers of Lapland engaged in industry and communications, it ceases to be a primitive region although many Lapps are quite unaffected by the changes. The book, one of several on Lapland by this author, is based on many years' acquaintance with the land and its people. Copy seen: DLC.

45658. HUSTICH, ILMARI, 1911—. Notes on the growth of Scotch pine in Utsjoki in northernmost Finland. Helsingfors, 1956. 13 p. 3 diagrs., 4 tables (Acta botanica fennica, no. 56.) 22 refs.

Measurements of growth phenomena of Scotch pines in Utsjoki (approx. 60°30' N.) are compared with earlier work. Growth in thickness, height, length and needle length, and intensity of female flowering are discussed; differences between pines of varying ages, and between main shoot and second order branches, and needle survival are also dealt with; summer temperature is the only limiting factor considered. Radial stem growth and needle growth are greatest in favorable summers, length increase and intensity of female flowering the year Use and misuse of mean following. climatic values, of measurements where climatic factors are complex, and of small sample studies are cited.

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45659. HUSTICH, ILMARI, 1911—. The radial growth of the pine at the forest limit and its dependence on the climate. Helsinki, 1945. 30 p., 3 illus., 5 diagrs.,

text map, 13 tables (Finska vetenskapssocieteten, Commentationes biologicae, t. 9, no. 11.) 25 refs.

Measurement of annual rings, from cores bored from forest trees, is described and analyzed. Problems of technique, use of climate records, and reasons for variation between yearly climate and tree growth are discussed. Comparisons are made between growth and climate in arctic Norway, Sweden, and Finland. Adequate conclusions depend on longer period of study and more measurements.

\*\*Copy seen: DGS.\*\*

45660. HUSTICH, ILMARI, 1911–, and G. ELFVING. Die Radialzuwachsvariationen der Waldgrenzekiefer. Heisinki, 1944. 18 p., diagr., 4 tables. (Finska vetenskaps-societeten. Commentationes biologicae, t. 9, no. 8.) 13 refs. Text in German. Title tr.: Variations in radial growth increase of pine at the forest limit.

Yearly variations in radial increase of pine at Utsjoki, in northern Finland, are compared with fluctuations of climate

and statistically analyzed.

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45661. HUTCHEON, DUNCAN EL-LIOTT, 1920-, and others. Adrenochrome hypothermia in normal and adrenalectomized rats. (Archives internationales de pharmacodynamie et de thérapie, 1956. v. 106, fasc. 1-2, p. 90-99, illus, table.) 18 refs. Other authors: J. Lowenthal, and N. R. Eade.

Adrenochrome and trihydroxy-N-methylindole caused hypothermia in rats, the second substance being more effective. Bilateral adrenalectomy increased the hypothermic action of adrenochrome; when adreno-cortical extract was administered to adrenalectomized rats, temperature drop was similar to that in intact animals, but lasted longer. The nature of adrenochrome action is discussed.

\*Copy seen: DNLM.\*

45662. HUTCHINS, LOUIS WHIT-ING, 1916—, and M. SCHARFF. Maximum and minimum monthly mean sea surface temperatures charted from the "World atlas of sea surface temperatures." (Journal of marine research, 1947. v. 6, no. 3, p. 264–68, map, 2 fold. plates.) 4 refs.

Data published in this U. S. Hydrographic Office atlas in 1944 were used to construct world maps showing isolines connecting points which warm up (isotheres) or cool down (isocrymes) to the same extremes irrespective of the month of occurrence. The method of preparation and the accuracy of the charts are discussed. The inadequacy of data for the higher latitudes is an important limitation. The mean position of the ice limits is also charted. **Copy seen:** DLC.

HUTCHINSON, HOWARD B., see U. S. Transportation Corps. Summary . . . Operation Ice Cap, 1953. 1954. No. 48561.

45663. HUTCHINSON, ROBERT DA-VID, 1924 - Cambrian stratigraphy, correlation, and paleogeography of eastern Canada. (In: International Geological Congress. 20th, Mexico City, 1956. El sistema Cámbrico, su paleogeografía y el problema de su base: Symposium, t. 2, p. 289-314, 2 text maps, 5 tables (1 fold.)) 46 refs.

Cambrian rocks outcrop in five main areas: southern Newfoundland, Cape Breton Island, St. John, N. B., Newfoundland-southeast Labrador, and southern Quebec. The stratigraphy of each is described in turn. Cambrian of northwest Newfoundland-southeast Labrador is not well known. Lower Cambrian rocks are widespread. Two formations, the Bradore and Forteau, are present in Labrador, the latter containing Olenellus fauna and many archeocyathid reefs.

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HUTT, BRUCE K., see Horvath, S. M., and others. Metabolic cost of shivering. 1956. No. 45615.

HUTT, BRUCE K., see also Horvath, S. M., and others. Reactions . . . nude men . . . mild cold exposure. 1956. No. 45616.

HUTT, BRUCE K., see also Spurr, G. B., and others. Temperature gradients . . . hypothermic dog. 1956. No. 48156.

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45664. HUZIOKA, TOSIO, and Y. HIKITA. Studies on the resistance of a snow sledge, II; friction between snow and iron plate. (Teion-kagaku, Low temperature science, Sapporo, 1954, ser. A, no. 13, p. 37–47, illus., table, graphs.) 6 refs. Text in Japanese. Summary in English.

"A flat iron ring was brought into contact with rotating sheets of compacted snow and tap-water ice at ambient temperatures of -20° to +4° C., and values of frictional resistance were de-

termined from electrical measurements of moments of rotation transferred to the ring. Rotational-speed differentials at the beginning of each trial were 0.6, 1.8 and 38 cm./sec. Most trials showed a linear ratio of frictional resistance to load, but deviations were noted for extremes of temperature and speed. The friction coefficient for snow below 0° C. decreased with increasing temperature, was minimum a few fractions of a degree below 0° C. and increased rapidly with temperatures above 0° C., and remaining constant above 0° C. for ice. These results seem to contradict Bowden's statement that the decrease in the friction coefficient with increasing temperature is due to meltwater produced by frictional heat. The experimental data are tabulated and graphed."—SIPRE.

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45665. HUZIOKA, TOSIO, and S. KINOSITA. Studies on the resistance of a snow sledge, III; friction between snow and model sledge. (Teion-kagaku, Low temperature science, Sapporo, 1955, ser. A, no. 14, p. 43-54, tables, illus., graphs, diagr.) 15 refs. Text in Japanese. Summary in English.

"The static and kinetic friction of a man-hauled, iron-runner sled on fresh and compacted snow were measured electrically for vertical pressures from 27-310 gm./sq. cm. and temperatures from  $-10^{\circ}$  to  $+5^{\circ}$  C. The results are compared with those of other investigators. The coefficient of static friction on hard snow varied from 0.2-0.5, and that of kinetic friction from 0.12-0.17. Resistance to motion was proportional to the total weight of the sled and was higher for fresh than for compacted snow. The additional force required by the curved parts of the runners to break down the fresh snow was proportional to the product of the volume of snow compacted and the energy needed to break down a unit volume of fresh snow. No definite relation was found between static friction on compacted snow and temperature" .-SIPRE. Copy seen: DLC.

45666. HYLANDER, NILS, 1904—, and others. Enumeratio Uredinearum scandinavicarum. Stockholm, Almqvist & Wiksell, 1953. 102 p. (Opera botanica Societate botanica lundensi; in supplementum seriei "Botaniska notiser," v. 1, no. 1) Text in English. Other authors: I. Jørstad and J. A. Nannfeldt.

Title tr.: An enumeration of Scandinavian Uredinales.

Lists 264 species of rusts or parasitic fungi of this order, with synonyms, citations, host plants and distribution (type localities) in Denmark, Finland, Norway, Sweden and Kola Peninsula. Some of the species are native to the northern areas. A list of host genera is appended.

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45667. HYMAN, LIBBIE HENRIETTA, 1888- . North American triclad Turbellaria, 15; three new species. New York, 1956. 14 p. 17 illus. (American Museum of Natural History, New York. American Museum novitates, no. 1808.)

A new family (Nesionidae) and a new genus (Nesion) are described, as well as the three triclads new to North American fauna. Two are fresh-water forms, the other N. arcticum n. sp., was collected Sept. 6, 1954, in the intertidal zone of St. Andrew's Island in the Bering Sea. Other parts of this series do not contain arctic material. Copy seen: DSI.

45668. HYMES, D. H. Na-Déné and positional analysis of categories. (American anthropologist, Aug. 1956. v. 58, no. 4, p. 624–38, tables.) 54 refs.

Discusses the genetic connection between the Athapaskan, Tlingit and Haida languages, using the hypothetical Na-Déné language (cf. No. 15339) as test case. The background and present status of the Na-Déné problem are discussed. A structural comparison of the above languages is attempted, with mention of the position of Eyak.

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45669. HYMES, VIRGINIA DOSCH. Athapaskan numerical systems. (International journal of American linguistics, Jan. 1955. v. 21, no. 1, p. 26–45, tables.) Approx. 55 refs.

Analyzes and tabulates the numeral systems of the northern, Pacific coast, and southern Athapaskans, including Koyukon, Ingalik, Tanaina, Ahtena, Kutchin, Tanana, Hare, Dogrib, Chipewyan, Slave, Kaska, etc. The decimal, quinary, pairing and decimal-subtractive formations are discussed and compared.

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45670. HYSING-DAHL, CHR., 1926. Organisert zoologisk amatørvirksomhet. (Naturen 1955. Årg. 79, nr. 8, p. 234-40.)

Text in Norwegian. Title tr.: Organized amateur zoological activity.

Summer field studies in a newly organized system of amateur participation included a tour to Tromsø in 1947; several species of spiders were collected in Nord-Rana and Pasvik.

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45671. ĀBLONSKIKH, V. Nuzhdy okhotnikov Khanty-Mansilskogo okruga. (Okhota i okhotnich'e khozalstvo, Dec. 1956, no. 12, p. 15.) Text in Russian. *Title tr.:* Hunters' needs in the Khanty-Mansiysk District.

Notes shortcomings in supplying equipment needed by the hunters of this district in the lower Ob' basin, noted for producing such valuable fur-bearers as arctic fox, squirrel, sable, ermine, otter, muskrat, etc. Shortage of cartridges, traps, tarpaulin and footgear is stressed.

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**ÎAKISHIN, F. S.,** see Belîaev, P. O laîkakh. 1956. No. 43931.

45672. TAKOVLEV, GURIŤ NIKOLAE-VICH. Study of the morphology of the ice cover by surveying. Washington, D. C., 1956. 22 p. diagrs., illus., tables. (In: Somov, M. M. Observational data . . . drifting station 1950-51, pt. 5, translated by David Kraus.) Appendix of data tables paged 72-102 as in original Russian edition.

The results of investigations from May-Sept. 1950 at the drifting station North Pole-2 north of Bering Strait are reported in detail and discussed, and the surveying methods and instruments used are described. Studies were made on the changes in the ice surface due to the melting of ice of varying ages; on the possibility of maintaining a level ice surface during the melting period in areas with and without such cover, with and without artificial drainage of meltwater, and covered with shavings to delay melting; also on the preservation of the surface relief during melting along the axis of the airfield on one-yr.-old ice and on old ice before and after flooding. Data are tabulated and grouped on daily changes in relief of each area tested, and maps and profiles of the test areas are given. Copy seen: CaMAI.

45673. AKOVLEY, GURII NIKOLAE-VICH. The thermal regime of the ice cover. Washington, D. C., 1956. 18 p. illus., diagr., graphs, tables. (In: Somov, M. M. Observational data . . . drifting station 1950–1951, pt. 7; translated by David Kraus.) Tables in appendices are reproduced from v. 2, p. 186–350 of the Russian edition.

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Reports results of observations made four times daily Apr. 15, 1950-Apr. 7, 1951 at five points on the drift station North Pole-2 on the temperature of snow, bare and snow-covered old and new ice at the surface and to a depth of four meters, of water under the ice, and of surface pools. Characteristics of the ice and snow at the measuring points, the methods of measurement, instruments used, and data analysis are described. Changes in ice strength and its structural characteristics, as well as of snow density with temperature were also studied. Data are tabulated and graphed on the the amplitude of the mean monthly ice temperature at various levels, changes in mean crushing strength, in each layer of one-yr. old ice, differences in the temperature of bare and snow-covered ice at various levels for each month from May-Jan., snow densities and mean snow depths for selected periods, average, min. and max. snow and ice temperatures at each test point for each hr. of observation, their daily and monthly means, maximum and minimum, pool water temperatures, and the salinity of water and ice in the pool.

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45674. TAKOVLEV, GURIT NIKOLAE-VICH. Visual observations of the state of the drifting ice cover. Washington, D. C., 1956. 41 p. diagrs, illus. (In: Somov, M. M. Observational data . . . drifting station 1950–1951, pt. 5; translated by David Kraus).

Reports visual observations made on drifting station North Pole-2, Apr. 4, 1950-Apr. 9, 1951, from 76°03′ N. 193°24′ E. to 81°44′36″ N. 196°12′ E. They supplement instrumental investigations and refer to the melt and growth processes of the drifting ice, the morphology of the ice cover, temperature variations of ice, snow, and freshwater pools, and the physical and mechanical properties of the ice. The phenomena observed daily are described in diary form, photographs and diagrams of the outstanding features of the ice are presented, and maps of the ice field and profiles through the ice are given.-From SIPRE. Copy seen: CaMAI. fakovlev, I. N., see Vil'chevskil, D. P., and others. Opyt raboty . . . selnera "Kamchatskil." 1956. No. 48753.

45675. ÎAKOVLEV, NIKOLAÏ NIKO-LAEVICH, 1870- . Pervafa nakhodka morskoĭ lilii v kembrii SSSR. (Akademifa nauk SSSR. Doklady, June 1, 1956. v. 108, no. 4, p. 726–27, 2 illus.) 5 refs. Text in Russian. *Title tr.:* First find of the sea-lily in the Cambrian of the U. S. S. R.

Contains a description of Pareocrinus ljubzovi gen. et sp., found by V. V. Lûbtŝov in 1955, in the basin of the Tyung River, a left tributary of the Vilyuy in Yakutia. The imprint of a medusa, probably of the genus Brooksella was found in the same location.

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fakovlev, sergeř malakhievich, see Litvíakov, I. I., and S. M. fakovlev. Dobycha...torfa...kolonnami mashin. 1955. No. 46402.

**fakovleva, M. N.,** see Bogatova, G. P., and M. N. lakovleva. Literatura o Sibiri . . . 1956. No. 44070.

45676. ĪĀKUBOVSKAĪĀ, S. I. Pervye meroprifatifa sovetskol vlasti po sodelstvifū narodam Severa. (Akademifā nauk SSSR. Istoricheskie zapiski, 1952. t. 40, p. 260–66.) 4 refs. Text in Russian. *Title tr.*: First measures undertaken by the Soviet regime to help the peoples of the North.

Describes the scope and functions of the Committee of the North (Komitet Severa) created in 1923 to further the political and economic development of the so-called small peoples of the North. The creation of cultural centers is mentioned and the number of reindeer and their distribution per household in the Nenes national district (1926 census) are given.

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45677. IAMPIETRO, P. F., and others. Rates of cooling of rats in the cold. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 98-99.) Other authors: E. R. Buskirk, and M. J. Fregly.

Account of colonic cooling rates (CCR) of normal, variously treated and dead animals, exposed to 5° C. The cooling rate progressively increased in the following order: control animals, propylthiouracil-treated, adrenalectomized, treated with both these methods, dead animals.

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45678. IAMPIETRO, P. F., and others. Maintenance of body temperature of restrained adrenalectomized rats exposed to cold; effect of adrenal cortical hormones. (Canadian journal of biochemistry and physiology, July 1956. v. 34, p. 721-29, illus.) 28 refs. Other authors: M. J. Fregly and E. R. Buskirk.

Account of two series of experiments, aimed to determine (a) the relationship between body weight and colonic cooling rate (CCR); and (b) the effects of administration of adrenal cortical hormones on the initial colonic temperature and the CCR in adrenalectomized rats. The animals were exposed to an ambient temperature of 5° C.

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ÎANOVSKIĬ, VLADIMIR KONSTAN-TINOVICH, d. 1955, see Kachurin, S. P. ÎAnovskiĭ. 1956. No. 45846.

45679. ASTREBOV, K. Promysel gornosta@ i khor@. (Okhota i okhotnich'e khoz@tstvo, Dec. 1956, no. 12, p. 22–24, illus.) Text in Russian. Title tr.: Hunting ermine and polecat.

Describes methods of hunting and trapping these valuable fur-bearers (with illus. of traps); among the ermine-producing areas, Yakutia is mentioned in first place.

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45680. ÎATCHENKO, F. I. Sozdanie zashchitnykh lesnykh polos v tundre na Pechorskol zheleznol doroge. (Rastitel'nost' Krainego Severa SSSR i ee osvoenie, 1956. vyp. 1, p. 93–98, illus.) Text in Russian. *Title tr.:* Shelterbelt forest planting in the tundra region of the Pechora railroad.

The Pechora is the most northerly railway line in the Soviet Union; its northern section runs through open tundra and the snow drifts in winter cause trouble. Movable snow fences are expensive to install and maintain; forest shelterbelts are much cheaper and more effective. Preparatory work by silviculturists, brought in by the railroad to study the problem and set up nurseries in Seyda, Vorkuta and elsewhere, is reported. Methods of planting the shelter belts is discussed. The high level of permafrost, strong winds, severe winters with temperatures down to  $-55^{\circ}$  and -60° C., short summers, and poor swampy soils are factors which slow success of planting. Experiments in removing the moss cover and plowing have increased the depth of thawing from one to two meters. Copy seen: DLC.

ATSUN, EVGENII PAVLOVICH, see Treshnikov, A. F. God na l'dine . . . 1956. No. 48455.

45681. ĀVORSKIĬ, V. I. Klass Hydrozoa - gidromeduzy. (*In*: Leningrad. Vsesofūznyĭ geologicheskiĭ institut. Polevof atlas ordovikskoĭ i siluriiskoĭ fauny Sibirskoĭ platformy, 1955. p. 35–39, illus.) Text in Russian. *Title tr.*: Class Hydrozoa - hydromedusae.

Description of the skeleton of these marine animals, their occurrence in time and space and present geological significance. Five species are described and their occurrence and geographical distribution discussed. **Copy seen:** DLC.

45682. IBARRA GRASSO, DICK EDGAR. Die letzte Eiszeit als notwendige Voraussetzung für die erste Besiedlung Amerikas; eine neue Theorie über die Herkunft der Altmenschen in Amerika. (Zeitschrift für Ethnologie, 1956. Bd. 81, Heft 2, p. 258–69, maps, diagr.) Refs. in text. Text in German. Title tr.: The last ice age, a prerequisite for the settlement of America; a new theory on the origin of prehistoric man in America.

Advances theory of mild ice-age glaciation of America leaving an ice-free corridor from Alaska inland during the greater part of its duration. The low-ered sea level left the Bering Strait dry, permitting man to cross during the last ice age. New Mexican finds with radiocarbon measurements of over 26,000 years are cited. They belong to a coups de poing culture comparable to the Mousterian but corresponding, probably, to the proto-Solutrean. The Folsom age is compared to the upper Solutrean, and the pre-ceramic Alaskan finds to the mesolithic period of Europe.

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45683. IGELSTRÖM, L. J. Om utsigterna för apatit-tillgångars uppträdande i Sverige. (Geologiska föreningen, Stockholm. Förhandlingar, 1891. bd. 13, häfte 1, no. 134, p. 34–36). Text in Swedish. *Title tr.:* On the prospects of occurrence of apatite supply in Sweden.

Occurrence of apatite in economically significant amounts is here considered in its possible connection with iron ores in several Swedish localities, including Gällivare. Workable amounts of apatite-

bearing ores may be found in the Gällivare region and elsewhere in Norrland.

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IHRIG, HARRY KARL, 1898—, see Benjamin, H. B., and others. Hypothermia by internal cooling. 1956. No. 43958.

45684. IL'IN, B. A. Usilenie proezzhet chasti dorog pri vyvozke lesa avtomobilâmi tâzhelogo tipa. (Lesnaîa promyshlennost', Nov. 1954, god 14, no. 11, p. 6-9, table, diagrs.) Text in Russian. Title tr.: Reinforcement of gravel roads for heavy-truck timber transport.

Two types of the road reinforcement are described: a log type with logs split in half or heavy boards laid on each side at a 30° angle to the center; and a removable concrete-type assembly with heavy perforated panels laid end-to-end in two rows upon the ground. The panels are 250 x 100 x 16 cm. in size which required 0.17 m.³ of concrete and 16-20 kg. metal, i. e. 220 m.³ concrete and 24 tons of steel, per km. of road. Perforations (holes) in the panel represent about 30 percent of the area. This covering has the advantage of long service, also of disassemblage and re-assemblage on other roads.

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IL'IN, V. S., see Veselkin, N. V., and others. Vlifanie sveta na sintez vitamina C. . . . 1934. No. 48730.

ILINICH, Tv., see Centkiewicz, A., and C. J. Centkiewicz. Zavoevanie Arktiki . . . 1956. No. 44300.

ILLARIONOV, S. A., see Ūdin, M. N., and S. A. Illarionov. Iz opyta skarmlivanifa tfüleniny pushnym zverfam. 1956. No. 45732.

45685. ILLIES, JOACHIM. Seeausfluss-Biozönosen lappländischer Waldbäche. (Entomologisk tidskrift, 1956. Årg. 77, häfte 2–4, p. 138–53, 2 illus., 3 tables.) 13 refs. Text in German. *Title tr.*: Biocoenoses of lake drift of Lapland forest springs.

Contains a study of the influence of the organic drift from the lakes on the benthic fauna content of small water basins connected with them. The study was carried out in the Lule River region of Lule Lappmark above the Arctic Circle, in the summer of 1955. Tabular data and lists of benthic organisms (p. 145–46 and 149–50) show that the benthic biomass is much larger in the lakes than

in the springs; and the amount of active benthic elements (hunting for food) is 12 percent in the lakes and 80 percent in the springs (fig. 2). Copy seen: DLC.

ILLŪVIEVA, G. V., see Leningrad. Nauchno-issledovatel'skiI institut geologii Arktiki. Metodicheskie issledovani@a po geokhimii . . . 1956. No. 46312.

45686. IMBERT, BERTRAND. Metal buildings at the French Antarctic base on Ile des Pétrels. (Polar record, Sept. 1956. v. 8, no. 54, p. 246-52, illus., 2 diagrs.) 4 refs.

Construction features are given of metal prefabricated buildings designed for use in polar regions, by Fillod, Florange, Moselle. The buildings have the primary advantage of being non-inflammable, as well as being 30 percent lighter than comparable wooden structures. The steel shell of the building is insulated on the inside with a special impermeable material sandwiched between sheets of fireproofed plywood. Copy seen: DLC.

45687. IMIG, CHARLES JOSEPH, 1922-, and others. Blood flow in the hind limbs of dogs after exposure to cold. Randolph Field, Texas, March 1956. 8 p. illus, tables (U. S. Air Force, School of Aviation Medicine. Report no. 55-56) 9 refs. Other authors: W. J. Roberson, M. Gault, and H. M. Hines.

Volume of blood flow in the hind limb or foot of dogs was increased during and after rewarming following freezing of the tissues. Cooling to 27° or 15° did not affect the blood flow during post exposure time, but chilling to about 12° C. resulted in an increased blood flow during and after the rewarming period.

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45688. IMIG, CHARLES JOSEPH, 1922-, and others. Comparison of blood flow in normally innervated and in sympathectomized legs of dogs after exposure to cold. (American journal of physiology, July 1956. v. 186, no. 1, p. 35-38, illus.) 5 refs. Other authors: W. J. Roberson and H. M. Hines.

During and after rewarming from a  $3\frac{1}{2}$  hrs. exposure to  $-4^{\circ}$  C., an increase in blood flow took place in intact legs; no such increase was observed in sympathectomized limbs. Those findings indicate some vasomotor impairment in the normally innervated leg following its cold-exposure. Copy seen: DNLM.

IMIG, CHARLES JOSEPH, 1922-, see also Hines, H. M., and others. Comparison of blood flow . . . 1956. No. 45550.

IMIG, CHARLES JOSEPH, 1922-, see also Senay, L. C., and others. Neuro-muscular damage . . . cold. 1956. No. 47901.

45689. IMLAY RALPH WILLARD, 1908- . Stratigraphic and geographic range of the early Cretaceous ammonite Homolsomites. (Journal of paleontology, Sept. 1956. v. 30, no. 5, p. 1143-46, illus.) 12 refs.

The Early Cretaceous (Valanginian) ammonite Homolsomites Crickmay . . . is redefined and the name applied to species from California, Oregon, Washington, and East Greenland (Trail Ø; 72°32' N. 23° W.) that have been described under other generic names. The genus is closely related to Tollia Pavlow from the late Berriasian of the Boreal region and is referred to the family Craspeditidae. Homolsomites is commonly associated with the pelecypod Aucella crassicollis Keyserling and the ammonites Polyptychites (including species from northern U. S. S. R.), Neocraspedites, Lyticoceras, and Sarasinella. Specimens from East Greenland were described by Donovan (Arctic Bibliography, No. 28784) and assigned to Dichotomites. Copy seen: DGS.

45690. INDUSTRIAL AND MINING STANDARD. Arctic ore storage plant. (Industrial & mining standard, Mar. 17, 1955. v. 110, no. 2784, p. 10-11, illus.)

New facilities at the iron ore storage and transport plant at Narvik, Norway are described. Two conveyor belts with a capacity of 4000 tons/hr. insure a steady inflow and outflow of ore (cf. No. 39170). The plant modernization required one and one-half years with much of the construction being accomplished during the winter.

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45691. INDUSTRIAL LABORATOR-IES. Arctic snow, whiteout probe recorders. (Industrial laboratories, Sept. 1956. v. 7, no. 9, p. 68, illus.)

Contains brief description of precision recording instruments used by the Snow, Ice and Permafrost Research Establishment for snow drift and whiteout studies 200 miles inland and 7,000 ft. above Thule, Greenland.

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45692. INDUSTRIENS UTREDNINGS-INSTITUT, Stockholm. Norrlandsbibliografi. Stockholm, 1944. 63 p. Text in Swedish. Title tr.: Norrland bibliography.

Lists approx. 1000 books and articles on Sweden's northernmost province, to provide social and economic background data in plans for future development. The references, mainly since 1900, are grouped by subject (nature, population, civic development, occupations, and cultural life, with various subgroupings) and were assembled by the industrial research institute in 1940. Over 50 Swedish journals containing Norrland materials are also listed.

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45693. INGEBRIGTSEN, S. Forsøk med tidlige potetsorter. (Forskning og forsøk i landbruket, 1956. bd. 7, hefte 1, p. 1–9, 4 tables.) 5 refs. State Experiment station Holt, Tromsø, report no. 22. Text in Norwegian. Summary in English and German. Title tr.: Trials with early potato varieties.

Report on experiments at Holt, with 12 early potato varieties harvested at Aug. 10, 20, and 30. Some varieties with high marketable tuber yields elsewhere were inferior in these tests. Of the seven varieties mentioned two are recommended as most productive.

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45694. INGEBRIGTSEN, S. Forsøk med ulik planteavstand for kålrot og ulik tynningsavstand for gulrot. (Forskning og forsøk i landbruket, 1953. bd. 4, hefte 5, p. 385–99, 9 tables.) 7 refs. Text in Norwegian. Summary in English. *Title tr.*: Experiments concerning various spacings for rutabagas and various thinning rates for carrots.

These experiments were carried out at the Holt experimental farm near Tromsø, northern Norway, 1944–51. Data on soil, fertilization, and dates of planting and harvesting, leaf and root weight, dry matter and value in feeding units per unit area for the turnips, and condition of harvested crop for both vegetables are included. Most practical spacings are recommended.

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INGERSOLL, COLIN M., see U. S. Alaska Railroad Commission. Railway routes in Alaska . . . 1913. No. 48534.

45695. INGOLS, ROBERT SMALLEY, 1911-, and R. H. FETNER. Sterili-

zation of water by ozone under arctic conditions. Ladd Air Force Base, Alaska, Sept. 1956. 25 p. illus., tables. (U. S. Air Force. Arctic Aeromedical Laboratory. Project no. 8-7955.) 27 refs.

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Contains account of preliminary investigations on the chemistry and kinetics of ozone solutions and of methods of measuring such, followed by study on the effects of various ozone solutions upon Escherichia coli at temperatures of 0° to 2° C. and at pH 6.8. Comparisons with the bacteriocidal activity of chlorine are also included and discussed.

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45696. INGOR, M. Zhenshchiny v okhotnich'em khozíālstve. (Okhota i okhotnich'e khozíālstvo, Mar. 1956. no. 3, p. 7-9, illus.) Text in Russian. *Title tr.:* Women as hunters.

Notes women as professional hunters in Bol'shezemel'skaya Tundra, Amderma District, Nenets National District, Magadan and Krasnoyarsk Provinces and in other arctic or subarctic areas.

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45697. INGSTAD, HELGE MARCUS, 1899—. Eirik the Red. (Norseman, Nov.-Dec. 1956. v. 14, no. 6, p. 387-91, 2 illus.)

Recounts Eirik's travels from Jaeren, his birthplace in southern Norway, to Iceland, and in 982 A. D. to Greenland; his explorations there and founding of a Norse colony on the southwest coast about 985. The settlements, Eystribygd and Vestribygd are traced, until about 1500 when contact with Iceland and Norway ceased; Eirik's farm, Brattalid, and its present ruins are noted.

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45698. INGSTAD, HELGE MARCUS, 1899—. Sigurd Gunnarson Helle, vitenskapsmannen fra Setesdalen som skal lede den store norske Antarktisekspedisjon. (Polarboken, 1956, p. 193–96, illus.) Text in Norwegian. *Title tr.:* Sigurd Gunnarson Helle, scientist from Setesdal who is to lead the large Norwegian Antarctic expedition.

Leader of the Norwegian IGY. expedition to the Antarctic is geodesist at the Norsk Polarinstitutt, with experience in triangulation and astronomic, geomagnetic, and tidal mensuration in Svalbard and Jan Mayen; he has also worked on auroral problems. His personal qualities

and proposed activities on the expedition are mentioned. Copy seen: DLC.

INSTITUT SEL'SKOGO KHOZĀĀ-STVA KRAĬNEGO SEVERA, see Savkina, Z. P., and T. P. Meshkova. Opyt posadki zashchitnykh lesnykh polos . . . 1956. No. 47812.

45699. INTER-AMERICAN RADIO OFFICE. Combined list of stations in the standard broadcasting band, North American region; by order of frequency and of call letters. Rev. to Aug. 1953. La Habana, Cuba, 1953. 130 p. tables.

Contains assignment of standard broadcasting stations in the Bahamas, Canada, Cuba, Dominican Republic, Haiti, Mexico, and the U.S. Stations are listed by frequency, country, and alphabetically by call letters. Included are stations in the Canadian Arctic and Alaska.

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45700. INTERAVIA. The TACAN system and the results of the Alaska tests. (Interavia, Oct. 1956. v. 11, no. 10, p. 815-17, illus., diagrs.)

Operational characteristics and use of the Tactical Air Navigation (TACAN) System are discussed, and results of tests conducted in Alaska are noted. This system utilizes a thin radar beam between aircraft and fixed ground stations which is translated in the aircraft to read distance and bearing from the ground station. Seventeen ground stations were established in Alaska in the autumn of 1954 and used by a large number of aircraft. The results of the tests established the accuracy and the reliability of the system.

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45701. INTERNATIONAL CIVIL AVI-ATION ORGANIZATION. Ice and snow on runways. Montreal, 1955. 70 p. 11 illus., 5 figs., 3 charts, 7 tables. (*Its*: Circular 43-AN138.)

Specific problems associated with turbojet operations and their solution in various countries are summarized from discussions held at the Third North Atlantic Air Navigation Meeting held in Montreal, Oct. 1954. The problems considered were: antiskid brakes, special tires, braking parachutes, reverse thrust, special runway construction, snow treatment, and methods of evaluating the coefficient of friction. Mention was made of various types of tires designated to increase braking efficiency under snow, mud, and ice conditions, such as special treads

impregnated with gritty materials, metal spikes and helical springs set in the treads, the latter having proved effective in northern Canada and in the Arctic. Appended is "Article on snow handling on Canadian airports" by D. B. Rees (p. 13-30) describing snow clearing and compaction methods practiced at Gander and Yellowknife among others; equipment used and cost data are tabulated for each airport. Also: "Report on the procedure for correction of minimum runway length under winter conditions at Oslo airport, Fornebu," by O. Kollerud (p. 31-46); and statements (from France) on snow removal at aerodromes, on deicing of runways, taxiways and aprons at aerodromes, and on salt-spreading equipment. Copy seen: DLC.

45702. INTERNATIONAL CIVIL AVI-ATION ORGANIZATION. Implementation Panel. Comments and recommendations on air navigation facilities and services in the North Atlantic region. Montreal, 1956. i, 31 p. diagrs., charts, tables. (Its: Doc 7751, PNL/1.)

An appraisal of air traffic problems and a comprehensive analysis of shortcomings in services and facilities are given for the air route Gander, Greenland, Iceland, and Shannon/Prestwick. One of the major problems is unreliable fixed communications due to the characteristic radio blackouts in subarctic areas. A new technique for point-to-point communications VHF forward scatter system is to be evaluated by ICAO Council in Jan. 1957; and if favorably reported, its installation in Greenland and Iceland is requested. Present and future traffic on the North Atlantic route is discussed briefly. Copy seen: DLC.

45703. INTERNATIONAL COMMISSION FOR THE NORTHWEST AT-LANTIC FISHERIES. Annual proceedings, v. 6, for the year 1955–56. Halifax, N. S., The Commission, Forrest Building, 1956. 74 p. illus. maps, graphs, tables.

Contains three parts: an administrative report (p. 5–8) by E. M. Poulsen; and a report of the sixth annual meeting Halifax, N. S., June 11–15, 1956, by Tavares de Almeida (p. 8–20) which includes a statement of research needs and list of participants.

Pt. 3, Summary of research 1955 is presented by country, viz.;

Canadian research (p. 21-27), by W. Templeman and W. R. Martin, deals with hydrography; haddock, its occur-

rence, age composition, migration; redfish, its occurrence, size composition, growth, etc.

Danish research report on cod in West Greenland coastal waters and offshore banks, by P. M. Hansen (p. 27–34) deals with occurrence of cod eggs and fry, composition of cod catches, migration, tagging, etc. Hydrographic conditions in the eastern Labrador Sea and Davis Strait including ice and temperature distribution, salinity, phosphates are reported by F. Hermann, who discusses also temperature and salinity along sections: Faroes to East Greenland and Cape Farewell-West Ireland (p. 34–38).

French temperature and hydrographic observations in the Davis Strait and between Cape Farewell and Newfoundland are reported (p. 39) by J. Ancellin.

German research in the Greenland and Iceland area reported by J. Lundbeck (p. 39-42) includes hydrography; cod landings, age composition and size; redfish studies, etc.

Icelandic research on age composition of codfish caught off West Greenland, is presented (p. 42) by Jón Jónsson.

Norwegian research reported by Birger Rasmussen (p. 43–47) is concerned with West Greenland fisheries, hydrography, cod catch composition (age and size), tagging of cod and halibut, conversion factors.

Portuguese research reported (p. 47–55) by Mario Ruivo covers cod, its age and size distribution, sex ratio, age at first maturity, growth, parasites. The material analyzed originates from a large area of West Greenland and Labrador waters.

Spanish research (p. 55-63), by Olegario Rodriguez Martin and Alfonso Rojo, covers investigations in the waters off Newfoundland on cod and haddock, their size, age, maturity, food, growth, size-weight relations, etc.; also water temperatures.

United Kingdom research (p. 63-64) by C. E. Lucas and R. S. Wimpenny deals with age and size distribution of cod from southwest Greenland (Subarea 1) and with otolith studies.

U. S. Research, by Herbert W. Graham, deals with haddock population, food, growth, etc., cod; redfish, flounder, etc. hydrography.

Data of these reports are coordinated by E. M. Poulsen (p. 67-74) in a summary of the 1955 work according to the Commission's subareas and to fields of re-

A review of the whole area and search. adjacent waters concludes the proceed-Copy seen: DI. ings.

INTERNATIONAL COMMIS-45704. SION FOR THE NORTHWEST AT-LANTIC FISHERIES. Statistical bulletin, v. 4, for the year 1954. Halifax, N. S., the Commission, Forrest Building, 58 p. illus., tables, map.

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Contains (in pt. 1, p. 7-18) a summary of the fishery in the area for all ten Convention members and Germany. Pt. 2 (p. 19-58) offers tables of statistics for the same area and period (1954). While previous reports covered only ground fish, cod, haddock, redfish, halibut, flounder, etc., the present account includes other species, pelagic and estuarine species, shellfish, etc. landed also, 73 species in all, offering a complete picture of marine resources utilized. All figures on landing are given in metric tons round fresh. Conversion factors are also included. Previous reports are listed as No. 34244, 35388, 40507B.

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INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISH-ERIES, see also U. S. Fish & Wildlife United States landing of ground fish . . . 1893-1950 . . . 1952. No. 48597.

INTERNATIONAL COUNCIL OF SCI-ENTIFIC UNIONS, see Paton, J. The observation of aurora. 1954. No. 47273.

INTERNATIONAL GEOGRAPHICAL UNION CONGRESS. 17TH, Washington, D. C., 1952. See

Aario, L. Climatic changes . . . 1956. No. 43471.

Ahlmann, H. W. Summary . . . Nordic countries. IGU. 1956. No. 43505.

Drummond, R. N. and others. Investigations . . . boreal forest of Labrador-Ungava. 1956. No. 44662.

Eydal, A. Some . . . herring fishery . Iceland. 1956. No. 44834.

Griffiths, T. M. Glacial geomorphology . . . Mt. McKinley . . . 1956. No. 45296.

T. The Norwegian-Soviet Lloyd,

boundary . . . 1956. No. 46414. Meen, V. B. The origin of The origin of Chubb Crater. 1956. No. 46685.

Ray, L. L. Perennially frozen ground, an environmental factor . . . 1956. No. 47536.

Tricart, J. Premiers résultats . . . com-

portement des roches . . . 1956. No. 48461.

Zaborski, B. Geographical . . . migrations of ethnic groups . . . northern Eurasia. 1956. No. 49029.

INTERNATIONAL GEOPHYS-ICAL YEAR, 1957-1958. Special Committee. CSAGI Arctic Conference, Stockholm, May 22-25, 1956. (In: I. U. G. G. News letter, Sept. 1956. 5° année, no. 15, p. 368-92.)

The 61 delegates who attended the Comité Spécial de l'Année Géophysique Internationale conference are listed; they represent 12 countries planning arctic observations in the International Geophysical Year; brief report of the proceed-Working groups were ings is given. formed to study the program in: meteorology, geomagnetism, aurora, ionosphere and arctic telecommunications for IGY messages, glaciology, seismology, and gravimetry; also (later) a group to deal with CSAGI publications and a continuing group on arctic IGY communications. The following papers presented are listed in this Bibliography under their authors' names, viz:

DAVITAIA, F. F. The programme of meteorological observations in the Arctic

during IGY.

BARTELS, J. Geomagnetic observatories in polar regions.

CHAPMAN, S. The IGY auroral pro-

NEWELL, E. The use of rockets in the IGY.

SHAPLEY, A. H. The ionosphere programme in the Arctic.

The resolutions adopted at the Conference are listed by subject (as above). They include recommendations for: the establishment of an aerological and actinometric station on the Greenland icecap; standardized and more extended surface measurements of ozone; cosmic ray measurements by transpolar aircraft flights; and regular aerial photographic traverses Copy seen: DLC. of the Arctic Basin.

45706. INTERNATIONAL GEOPHYS-ICAL YEAR, 1957-1958. Special Committee. Meeting of the Special Committee of the International Geophysical Year, Rome, 30 Sept.-4 Oct. 1954. [London?] 1954? 12 pts. separately paged. maps. Mimeographed.

Reports are presented of the groups on world days, meteorology, geomagnetism, aurora and airglow, ionosphere, solar activity, cosmic rays, latitudes and longitudes, glaciology, oceanography, and rockets. The Assembly's transactions, resolutions and recommendations are given. Stations and program of work, etc., for each of the 11 sub-committees named above are presented; as is the work of the sub-committees on geographical distribution (see also No. 45707) and publications and publicity. Chairman and members of the 13 committees are named, and activities of the president (S. Chapman), vice president (L. V. Berkner) and secretary-general (M. Nicolet) in 1953 and 1954 are reported.

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45707. INTERNATIONAL GEOPHYS-ICAL YEAR, 1957-1958. Special Committee. Second meeting of the Special Committee for the International Geophysical Year (CSAGI), Rome, 30 September-4 October 1954 (continued). XII, Geographical distribution. London, 1955. 79 p. tables. (Its: Bulletin d'information, no. 5) Also pub. as: I. U. G. G. news letter, no. 11.)

"This report lists stations in all parts of the globe, with geographical and magnetic coordinates, proposed for IGY, 1957/58, under headings of meteorology (including ozone, radiation, and spherics stations), geomagnetism, aurora and airglow; ionosphere, solar activity, cosmic ray, latitude and longitude, glaciology, oceanography, rockets, and according to Arctic, Antarctic, Equatorial, 80°-70° W., 10° E., and 140° E. longitude lines. In all, several thousand stations are listed."—
Meteorological abstracts & bibliography, Mar. 1956. v. 7, no. 3, p. 295.

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45708. INTERNATIONAL GEOPHYS-ICAL YEAR, 1957-1958. United States National Committee. Proposed United States program for the International Geophysical Year, 1957-1958. Washington, D. C., National Academy of Sciences-National Research Council, Aug. 1956. ix, 109 p. tables.

Current plans for U. S. participation in each of the major scientific disciplines are outlined. Two stations in the arctic ice pack near 78° N. 160° W., and 85° N. 100° W. are to be occupied. The Arctic Institute of North America plans to occupy a glacier in the eastern Brooks Range in North Alaska for a period of 15 months to carry out detailed glaciological investigations. Other stations will be manned in Alaska and Greenland. All stations are listed according to geo-

graphic region and meridian lines together with the principal programs of study.

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45709. INTERNATIONAL GEOPHYS-ICAL YEAR, 1957-1958. United States National Committee. United States program for the International Geophysical Year, 1957-58. Washington, D. C., National Academy of Sciences-National Research Council, Aug. 1955. 108 p. 3 charts, 14 tables.

The Committee's plans as of Sept. 1955, and those of various panels (13 fields of research) are described in turn, with calendars of world days, list of stations and their coordination and observing program in each discipline. The geographical distribution of all IGY stations is given according to latitudinal, auroral and longitudinal belts; charts show location of stations; members of each panel are named; and other details are given of the U.S. program which includes Alaska and places from the North to the South Pole, in the Pacific Islands, the Atlantic, and seven stations in South America. Copy seen: DWB.

45710. INTERNATIONAL HYDRO-GRAPHIC REVIEW. List of geodetic positions on European Datum (E. D.) of points used for nautical chart construction in the Netherlands and Norway. (International hydrographic review, Nov. 1956. v. 33, no. 2, p. 129–35, tables.)

Contains a tabular listing of the geodetic latitude and longitude of all points used by the two countries.

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45711. INTERNATIONAL PACIFIC HALIBUT COMMISSION. Regulation and investigation of the Pacific halibut fishery in 1950–1955. Seattle, 1951–1956. 6 nos. illus., tables, maps. (*Its*: Reports, no. 16, 18, 20–22, 24.) In continuation of No. 22822.

Presents information on the activities of the Commission in the fields of public relations, fishing regulations, landing statistics, and research into the problems of halibut abundance (or scarcity) in the fishing areas, changes in composition of catches and migration. Also reported in some issues, are conditions in specific areas, catch per unit fishing effort, meetings and conventions, research programs, open seasons, etc.

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INTERNATIONAL POLAR YEAR. 2D, 1932-1933, see U. S. S. R. Komitet SSSR

po provedenifû 2-go MPG. Gidrologicheskie . . . morskikh êkspedifsil . . . 1987. No. 48513.

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45712. INTOCCIA, ALFRED, and L. Van MIDDLESWORTH. Alterations in iodide metabolism during cold exposure. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 99.)

Account of experiments with rats fed a I<sup>131</sup> tagged diet and then exposed to cold. Results suggest an increased deiodination of thyroid hormone in the cold, resulting in more endogenous iodide available for the thyroid and kidneys.

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45713. IONIN, A. S., and P. A. KAPLIN. Osobennosti formirovanifa morskikh terras. (Akademifa nauk SSSR. Izvestifa, serifa geograficheskafa, Sept.-Oct. 1956. no. 5, p. 9-21, illus., graphs.) 10 refs. Text in Russian. *Title tr.:* Peculiarities in the formation of marine terraces.

Formation of Quaternary seashore terraces is outlined, and erosion terraces are distinguished from accumulation terraces. Movement of the shore line (regression or transgression of the sea) and its speed, stability of the shore rocks, and wave action are factors in building terraces; their interrelation is discussed and exemplified, chiefly, from the Novaya Zemlya, Chukotka and Kamchatka coasts. The difficulty of reconstructing the paleogeographic processes of coastal bank formation is stressed.

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IONOV, B. D., see Shaul'skii, F. I. Sukhoputnyi transport lesa. 1951. No. 47926.

45714. IONOVA, O. V., and F. G. SAFRONOV. O sotsial'no-ekonomicheskikh otnoshenifakh v fakutii xvii-xix vekov. (Voprosy istorii, Aug. 1956, no. 8, p. 115-20.) 36 refs. Text in Russian. Title tr.: Social and economic relations in Yakutia in 17-19th centuries.

In discussion of problems raised by I. S. Gurvich\*, the writers challenge his view that land ownership was subordinated to possession of herds: ownership of pastures, they stress, was of primary importance in social relations of the Yakuts. Economic conditions, customs, laws, social organization and class differentiation

among the Yakuts are analyzed, based partly on unpublished materials.

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**45715. IRVING, LAURENCE, 1895** - Influences of Alaskan research on the progress of science. (*In.*: Alaskan Science Conference . . . 1952. Proceedings pub. 1954, p. 1–5.)

Some advances in knowledge and thinking are presented as resultant from work of explorers and scientists, viz.: Steller and Cook in the 18th century; Dall and men of the U. S. Army, Navy, and Revenue Service in the 19th; Murdoch and Ray at Barrow during the first International Polar Year, 1882–83; Lt. Stoney in northern Alaska in 1885; Stefansson, Leffingwell, and Wilkins in the early 20th century; and in mid-20th century, the work of J. L. Giddings, and the U. S. Air Force. Travels of arctic Alaskan Eskimos up to about 1900, are also cited.

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45716. IRVING, LAURENCE, 1895—, and others. Metabolism and insulation of swine as bare-skinned mammals. (Journal of applied physiology, Nov. 1956. v. 9, no. 3, p. 421–26, illus., tables) 19 refs. Other authors: L. J. Peyton and M. Monson.

Contains a study of metabolism and skin temperature in young Alaskan swine exposed to temperatures of +20 to -30° C. Critical temperature, heart beat, behavior of peripheral blood vessels, etc., were also recorded and integrated with the overall observations. The peripheral tissue was found to possess a heterothermous capability offering a high degree of insulation to the body.

\*Copy seen: DNLM.\*

45717. IRVING, LAURENCE, 1895—, Nocturnal decline in temperature of birds in cold weather. (Condor, Nov.— Dec. 1955. v. 57, no. 6, p. 362–65, tables.) 9 refs.

Report on body temperature of seven species of Alaskan birds held in captivity at Anchorage. In the winter with air temperatures of  $-9^{\circ}$  to  $-22^{\circ}$  C. body temperature remained unchanged during the day, but fell 0.9° to 4° C. during night time. This decline is attributed to lack of activity during sleep and rest.

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\*K voprosu ob obshchestvennom stroe iūkutov v zvii-ziz vv (Social organization of the Yakuts in the 17-19th centuries), pub. in: Akademiā nauk SSR, Ākutskiī filial, Institut ūzyka, literatury i istorii, Uchenye zapiski, 1055, vyp. 3, p. 8-10 (copy not seen).

**45718.** IRVING, LAURENCE, 1895—. On the various directions of bird migrations through arctic Alaska. (*In:* Alaskan

Science Conference . . . 1953. Proceed-

ings, pub. 1956, p. 178-79).

A systematic summary of areas crossed by migratory species nesting on the tundra of interior of northern Alaska. In addition to 67 from the American continent, four are from Asia, two from the Pacific Islands and 19 from the North Pacific.

Copy seen: DGS.

45719. IRVING, LAURENCE, 1895—. Physiological insulation of swine as bare-skinned mammals. (Journal of applied physiology, Nov. 1956. v. 9, no. 3, p. 414–20, illus., table.) 15 refs.

Account of temperature records of the skin and the underlying tissues in swine during winter and summer in Alaska. Measurements of various body regions were made both at rest and in action and temperature gradients established up to depths of 45-70 mm., where a practically constant  $38.4^{\circ}\pm0.5^{\circ}$  C. prevailed. Conditions are discussed and compared with those in man. Copy seen: DNLM.

45720. IRVING, LAURENCE, 1895-, and J. KROG. Temperature during the development of birds in arctic nests. (Physiological zoology, July 1956. v. 29, no. 3, p. 195-205, illus. tables.) 22 refs.

Account of investigations conducted on seven nesting species at Anaktuvuk Pass (68°19' N. 151°26' W.) Northern Alaska. Median of 49 temperature records during incubation was between 33° and 35° C. with 74 percent of the records between 37° and 33°. Temperature maintained in the nest by parental behavior was essentially homoiothermous and unaffected by weather or climate. Among the nestlings 71 percent of the temperatures were between 42° and 36°C. with a median of 38° C. Growth proceeds at temperatures more stable than that of adult birds which can change 6° C. from sleep to full activity. Nestling stage (of Fringillidae) is about one day shorter than in temperate climate.

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45721. IRVING, LAURENCE, 1895, and S. PANEAK. The weight and nutritional status of birds at the arctic terminus of migration. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 212.)

"Six years' observations and measurements of migrant birds arriving in arctic Alaska have revealed no evidence of lack of food or other physiological stress during migration. Generally excellent condition of arriving birds would seem to indicate that timing and direction of migration coincide with northward spring wave of developing food supplies."

Copy seen: DGS.

IRWIN, DON LOUIS, 1888-, see Wilson, J., and others. Frontier development problems . . . 1956. No. 48979.

ISACHENKO, T. I, see Akademifâ nauk SSSR. Botanicheskif institut. Rastitel'nyl pokrov SSSR . . . Botanicheskafâ karta SSSR . . . 1956. No. 43520.

ISAEV, A. N., see Pichugin, A. V., and others. Torfanye mestorozhdenia . . . 1956. No. 47348.

45722. ISAEVA, A., and others. Issledovateli glubiny. (Pioner, Feb. 1956, no. 2, p. 40-48, illus., map.) Text in Russian. Other authors: N. Zenkevich, and S. Suetov. Title tr: Explorers of

the deep.

Three popular articles on recent activities of the research vessel Vitûz' (Capt. Sergel Illarionovich Ushakov). The first describes a typhoon and a cyclone encountered at the same time south of the Komandorskiye Ostrova. Zenkevich notes soundings taken along the Kuril Trench and discovery of a 10,382 m. deep off Iturup Island in the Kurils Suetov explains photography and trawling carried out to 10,000 m. depth, fish were taken to 7,230 m., echinoderms, etc. beyond. Copy seen: DLC.

45723. ISAKOV, D. Ogni Enise\(\text{a}\). (Sovetski\(\text{i}\) voin, Sept. 1956. god 38, no. 17, p. 16–17, illus.) Text in Russian. *Title tr.:* Lights on the Yenisey.

The beginning of work for construction of the Krasnoyarsk hydroelectric station is described and illus, with photos.

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ISAKOV, IVAN STEPANOVICH, ed., see U. S. S. R. Voenno-morskoe ministerstvo. Morskol atlas. 1950–53. No. 48515.

45724. ISHIDA, TAMUTSU, and H. SHIMIZU. Determination of the air flow resistance through snow layer. Part I. (Teion-kagaku, Low temperature science, Sapporo, 1955, ser. A, no. 14, p. 33–42, illus., table, graphs, diagrs.) 7 refs. Text in Japanese. Summary in English.

The results of experiments on various

types of snow are discussed, and the method of measurement is described. The flow of air through snow is similar to that through granular, porous materials. The resistance to air flow is low in new snow of small density, medium in granular snow of high density, and high in settled snow of medium density. Specific surface (cm<sup>2</sup>/g<sup>2</sup>) and mean hydraulic diameter of snow particles are considered as useful characteristics of snow as the density. Data are tabulated and graphed.—From SIPRE. Copy seen: DLC.

45725. ISPOLINOV, A. A. K voprosu vlijanija glubiny osushenija na izmenenie vodno-fizicheskikh svolstv torffanol pochvy i urozhaĭ trav. (In: Akademiſā navuk BSSR, Minsk. Instytut melifaratsyi, vodnal i balotnal haspadarki. Trudy, t. 2, p. 51-64, tables, graphs). Text in Russian. Title tr.: Influence of depth of drainage on change in the hydrophysical properties of peat soil and on the growth of grass.

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Study of grass growth on an experimental peat meadow in the Kirov region is described. Effects of drainage of the peat bogs at various depths, influence of different levels of ground water, and of the thickness frozen ground were investigated. Results of the observations are tabulated and plotted on set of curves. The most satisfactory results were obtained with drainage at the average of the various depths of ground water during the recorded vegetation periods.

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ISTORIÍA OTKRYTIÍA I OSVOENIÍA SEVERNOGO MORSKOGO PUTI, T. 1. see Belov, M. I. Arkticheskoe moreplavanie . . . 1956. No. 43944.

ISTOSHIN **WRII** 45726. VLADI-MIROVICH. Okeanografia. Leningrad, Gidrometeorologicheskoe izd-vo, 1956. 304 p. illus, tables, diagrs., charts, maps, 25 refs. Text in Russian. Title tr.: Oceanography.

Approved textbook for hydrometeor-

ological colleges.

Characteristics of oceans and seas generally, are dealt with in 13 chapters on depths, bottom profiles and their classification, physical properties of water and bottom deposits, distribution of currents, temperature, densities, salinity, etc. Sea ice, its formation, types, properties and distribution are dealt with (p. 162-78) and that of Atlantic and Pacific Oceans characterized (p. 193-94, 209-210). Oceans and seas washing the U.S.S.R. are treated in turn (chap. 14-21) among them the Arctic Basin, with bathymetric map, schemes of water rotation and ice island drifts; the northern seas: Barents, White, Kara, Laptev, East-Siberian, Chukchi; and the Pacific seas: Bering, Okhotsk, etc. with bathymetric and current distribution maps and note of typical commercial

Appendix (p. 288-96) presents the 1956 International ice nomenclature schedule in Russian and English with added description in Russian for each term.

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ISTOSHIN, TÜRIİ VLADIMIROVICH, see also Belinskii, N. A., and IU. V. Istoshin. Morfa . . . Sovetskogo Sofuza. 1956. No. 43935.

45727. ITAKURA, CHUZO, and T. SUGAWARA. Dynamic tests on the stability of bituminous mixtures for pavement at low temperature. (Sapporo, Japan. Hokkaido University. Faculty of Engineering, Memoirs, Nov. 1954. v. 9, no. 4 (42), p. 575-615, 13 refs. illus., diagrs., tables.)

Several techniques for dynamic and static tests are described, and results are graphed for the temperature range of  $+30^{\circ}$  to  $-20^{\circ}$  C. The characteristics of asphaltic mixtures were found to be temperature sensitive. A sonic apparatus was determined to be the best equipment for measuring these effects in the temperature range studied. The toughness or stability index is lower for lower Testing of the stability temperatures. of bituminous mixtures for use in cold climates should be planned from the dynamic rather than the static viewpoint. Copy seen: DLC.

45728. ITOH, S., and I. L. SCHWARTZ. Temperature effects on the swelling of liver slices immersed in solutions of sodium chloride, monosaccharides and disaccharides. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 100).

Liver slices taken from rats immediately after death and immersed in above solutions of various temperature (0° to 37° C.) showed variable swelling in relation to temperature. The factors responsible for this behavior are discussed Copy seen: DLC. for each case.

45729. ITSIKSON, M. I. Molibdenit v pirrotinovol zone tsentral'nol chasti Khibinskogo massiva. (In: Khibinskie apatity, 1933. t. 6, p. 141-44.) Text in Russian. Title tr: Molybdenite in the pyrrhotite zone of the central part of the

Khibiny massif.

Search for new deposits in the pyrrhotite zone of the Kukisvumchorr is described in respect to petrographic characteristics. The lithological zone consists mostly of dense mica-hornblendenepheline syenites containing pyrrhotite. Molybdenite (MoS<sub>2</sub>) is dispersed unevenly in the pyrrhotite zone. Genetically the deposit is connected with residual magma (with syenites) rich in mineralizers (fluorite, eucolite) and bound with them by pegmatitic processes. Analysis of dispersal molybdenite showed it, on average, only 0.05 percent metallic (Mo). Its even distribution presents difficulties for recovery, hence its industrial development is uneconomic despite of advantageous geographic location and large geochemical reserves.

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ITSIKSON, M. I., see also Obruchev, S. V. Spravochnik puteshestvennika . . . 1949-50. No. 47123.

45730. ITSKANOV, S. R. O sledakh drevnej gidrograficheskoj seti v bassejne srednego techenifa Enisefa. (Akademifa nauk SSSR. Izvestifa, serifa geograficheskafa, Sept.-Oct. 1956. no. 5, p. 93-96, table, map.) 2 refs. Text in Russian. Title tr: Traces of the ancient hydrographic system in the middle Yenisey River basin.

A petrographic, lithologic and stratigraphic investigation was carried out at the confluence of the Podkamennaya Tunguska with the Yenisev. The results allow an hypothesis that the accumulations of pebbles and alluvium occurring at various levels of the banks are remnants of pre-glacial and glacial hydrographic systems. These systems are tentatively reconstructed and shown on text map.

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45731. TUDIN. I. Polet bolida. (Ogonëk, Apr. 1956, god 34, no. 17, p. 31, illus.) Text in Russian. Title tr: The flight of a bolide.

Note on the brilliant meteorite observed in Middle and Northern Ural on Feb. 1, 1956. Copy seen: DLC.

45732. IUDIN, M. N., and S. A. ILLA-RIONOV. Iz opyta skarmlivanifa tfuleniny pushnym zveríam. (Karakulevodstvo i zverovodstvo. May-June 1956. god 9, no. 3, p. 43-44, tables.) Text in Russian. Title tr.: From an experiment in feeding fur animals with seal meat.

Information is offered on feeding foxes and mink with this meat, which originated in Arkhangel'sk and subsequently was frozen for storage. At the start, the meat was given in small portions to a limited number of animals only, and in all cases trimmed of excess fat and washed. The nutritive and economic aspects of the trial are discussed. Copy seen: DLC.

45733. IUFEROV, V. Zaderzhanie snega i talykh vod v kolkhozakh Sibiri. (Kolkhoznoe proizvodstvo, Nov. 1955. god 15, no. 11 (174), p. 28-29, illus.) Text in Russian. Title tr.: Retention of snow and meltwater in Siberian kolkhozes.

"Examples of the importance of snow retention to the agriculture of the steppe and forest-steppe regions of Siberia are given on the basis of observations made in 1952-1954. Soil freezing during the severe winter of 1952-53 reached 2.25 m. beneath a snow cover less than 10 cm. Snow retention, which increased snow depth to 60-70 cm., diminished soil freezing to 80 cm. Complete thawing occurred 25 days earlier than usual. Sunflower, mustard, and other high-growing crops were considered best for drift control when sown perpendicular to the prevailing wind in rows not farther apart than 10-15 times the height of the plant."-SIPRE. Movement of snow and water may be restricted also by a special arrangement of shields built of lumber and tree branches on snowbank.

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45734. IVANOV. TURII. V. kratere delstvufushchego vulkana. (Ogoněk, Oct. 1956. god 34, no. 42, p. 14-16, illus., port.) Text in Russian. Title tr.: In the crater of an active volcano.

Story and photos of author's trip with another alpinist, V. Milovanovich, up the Avachinskaya Sopka, and their descent (200 m.) to the bottom of the crater, Aug. 18, 1956(?). Copy seen: DLC.

45735. IVANOV, TURII. Zimufushchie lebedi. (Okhota i okhotnich'e khozfalstvo, Dec. 1956, no. 12, p. 41-43, illus.) Text Title tr.: The wintering in Russian. swans.

Describes a winter dog-sledge trip in Kamchatka and encounter with swans wintering on small ice-free lake in vicinity of the hot spring Chernyy Klyuch.

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45736. IVANOV, N. N. Opredelenie modulfă deformatsii osnovanii nezhestkikh dorozhnykh odezhd. (In: Moskva. Avtomobil'no-dorozhnyl institut. Opredelenie modulfă deformatsii gruntov, 1955. p. 17-21.) Text in Russian. Title tr.: Determination of modulus of deformation of beds for non-rigid road surfaces.

The applicability of the modulus of deformation to road design is discussed on the basis of critical comments on practical difficulties encountered in its determina-The modulus of deformation is compared with the California Bearing Ratio test (CBR), in which the hydrological and climatic conditions of different regions are not considered, particularly the soil density variations during freezing and thawing. Experimental determination of the modulus of deformation is usually made with slowly increasing loads, corresponding to steadily repeating loads of passing vehicles, which cause accumulated disturbances in soil structure.

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45737. IVANOV, SERGEĬ VASIL'E-VICH, and M. A. SERGEEV. Izobrazitel'noe iskusstvo narodov Sibiri. (Sibirskie ogni, July-Aug. 1956. god 35, no. 4, p. 155-68) 10 refs. Text in Russian. *Title tr.*: Pictorial art of the peoples of Siberia.

Analyzes the style, subject matter, artistic value, interrelationship, technique and materials used in plastic and ornamental art of the Khanty (Ostyaks), Mansi (Voguls), Nenets (Samoyeds), Kety (Yeniseians), Eveny (Lamuts) and Evenki (both Tungus peoples), Dolgans, Yakuts and others. The Soviet period is stressed, contemporary local artists are introduced and their work discussed.

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45738. IVANOV, SERGEĬ VASIL'E-VICH, and others. Nanatsy. (In: Akademiñ nauk SSSR. Institut étnografii. Narody Sibiri, 1956. p. 783-816, illus. plates.) 24 refs. Text in Russian. Other authors: M. G. Levin and A. V. Smoliūk. Title tr: Nanatsy.

Gives a general outline of the archeology and history of the Amur River basin, Okhotsk Sea littoral and Sakhalin, and of the population, i. e. the Paleo-siberian Nivkhi (Gilyaks) and Tungus-Manchurians: Nanatasy (Golds), Negidal'tay,

Orochi, Oroki, Udėgeitsy, and Ul'chi. Each group is treated individually (No. 45739-45744); comparisons of cultures made throughout. and customs are The territorial distribution of the Golds (approx. 48°-51° N.), population within the Soviet Union (5,757 in 1926), tribal names, linguistic and racial affiliations, trade and cultural relations with Russians and Chinese are discussed. Their native culture is described: hunting and fishing economics, agriculture, arts and crafts (iron artifacts and armor), means of travel (draught dogs, sledges and skis, flat-bottomed boats, dugouts and sailboats), summer and winter housing (bark and reed huts, tents, mud houses, frame and log cabins, barns on piles, etc.), furnishings (strong Chinese influence), clothing (animal and fish skins, Chinese silk), food, social conditions (slavery, exogamy, levirate), folklore and religious beliefs (shamanism, animism, tiger cult, burial customs, etc.). The changes in the post-Revolutionary period are dealt with: kolkhozes (started in 1930), motorized fishing stations (MRS), expansion of agriculture, introduction of gardening and agriculture, education, health serv-Modern native artists, writers ices, etc. and scientists are named and some of their works cited. The description of the pre-Revolutionary period is based on an unpublished (?) article by the late N. A. Lipskafa. Copy seen: DLC.

45739. IVANOV SERGEĬ VASIL'E-VICH, and others. Negidal'tsy. (In: Akademiña nauk SSSR. Institut êtnografii. Narody Sibiri, 1956, p. 776-82, illus.) 13 refs. Text in Russian. Other authors: M. G. Levin, A. V. Smolfâk. Title tr.: The Negidals.

Describes the pre-Revolutionary history, customs and material culture of this small Tungus group (426 in 1926) living along the Amgun' and Amur Rivers. The cultural and economic changes, kolkhozes, etc., under the Soviet regime are discussed, as in No. 45738.

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45740. IVANOV, SERGEĬ VASIL'E-VICH, and others. Nivkhi. (In: Akademiâ nauk SSSR. Institut ėtnografii. Narody Sibiri, 1956. p. 861-84, illus.) 21 refs. Text in Russian. Other authors: M. G. Levin and A. V. Smolâk. Title tr: Gilyaks.

Deals (as in No. 45738) with the preand post-Revolutionary culture and customs of this Paleo-Siberian group. The Gilyaks inhabit the lower Amur River region, and the island of Sakhalin. They numbered 4076 in the U. S. S. R. (1926 census): 2376 on the mainland, 1700 on northern Sakhalin; and 111 on southern Sakhalin in 1928. The description of the pre-Soviet period is based on an unpublished (?) article by A. M. Zolotarev. Copy seen: DLC.

45741. IVANOV, SERGEĬ VASIL'E-VICH, and others. Orochi. (In: Akademifā nauk SSSR. Institut ėtnografii. Narody Sibiri, 1956. p. 844-54, illūs.) 17 refs. Text in Russian. Other authors: M. G. Levin and A. V. Smolfāk. Title tr: Orochis.

Describes the linguistic and racial affiliations of this small Tungus group (405 in 1926) living mainly near the Tumnin River estuary (approx. 48° N. 140° E.). Their pre- and post-Revolutionary culture and customs are discussed as are those of the Golds (No. 45738). The description of the pre-Revolutionary period is based on an unpublished (?) article by B. A. Vasil'ev.

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45742. IVANOV, SERGEĬ VASIL'E-VICH, and others. Oroki. (In: Akademiiâ nauk SSSR. Institut étnografii. Narody Sibiri, 1956. p. 855-60, illus.) 17 refs. Text in Russian. Other authors: M. G. Levin and A. V. Smoliâk. Title tr.: Oroki.

Sketches (as in No. 45738) the material culture and customs (before and after the Russian Revolution) of this small Tungus group inhabiting Sakhalin. According to the 1926 census, 162 lived in the northern part of the island, approx. 300 in the southern. The description of the pre-Revolutionary period is based on an unpublished (?) article by B. A. Vasil'ev.

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45743. IVANOV, SERGEĬ VASIL'E-VICH, and others. Udėgelisy. (In: Akademiâ nauk SSSR. Institut étnografii. Narody Sibiri, 1956. p. 831–43, illus.) 9 refs. Text in Russian. Other authors: M. G. Levin and A. V. Smoliâk. Title tr.: Udegeitsy.

Describes (as in No. 45738) the material culture and customs of this southern Tungus group (1357 in 1926) in pre- and post-Revolutionary times. They live on both slopes of the Sikhote-Alin' mountain range (approx. 43°-52° N.) along the Sea of Japan.

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45744. IVANOV, SERGEĬ VASIL'E-VICH, and others. Ul'chi. (In: Akademiā nauk SSSR. Institut ėtnografii. Narody Sibiri, 1956. p. 817–30, illus. incl. plate.) 18 refs. Text in Russian. Other authors: M. G. Levin and A. V. Smoliāk. Title tr.: Ul'chi.

Deals with the material culture and customs of this Tungus group, as with the Golds (No. 45738). The Ul'chi, 758 in 1926, have lived along the Amur River (approx. 48°30′ N. 135° E. 52°30′ N. 140° 30′ E.) during the pre- and post-Revolutionary period. Polygamy and marriage to father's sisters and mother's brothers were practiced up to the 20th century. The description of the pre-Revolutionary period is based on an unpublished (?) article by A. M. Zolotarev. Copy seen: DLC.

IVANOV, SERGEĬ VASIL'EVICH, see also Potapov, L. P. Istoriko-ėtnograficheskil ocherk russkogo naselenifa Sibiri... 1956. No. 47433.

45745. IVANOV, V. N. Radio. (In: Obruchev, S. V. Spravochnik puteshestvennika, t. 1, 1949. p. 525–50, illus. tables.) 7 refs. Text in Russian. Title tr.: The radio.

Contains basic information on radiocommunication: radio-waves and their propagation; transmitters and receivers, their installation, operation and repair. Data on main Soviet transmitters and dry cells are given (p. 532-37). Soviet broadcasting stations, including Arkhangel'sk, Murmansk, Petropavlovsk-on-Kamchatka and Yakutsk, are listed with wave length. Copy seen: DLC.

45746. IVANOV, V. V. Gidrotermy Kamchatsko - Kuril'skoĭ vulkanicheskoĭ zony. (Moskovskoe obshchestvo ispytatelel prirody. Bûlleten', Sept.—Oct. 1954. god 125, Otdel geologicheskiĭ, t. 29, vyp. 5, p. 90–91) Text in Russian. *Title tr.*: Hydrothermal metamorphism in the Kamchatka-Kuril volcanic zone.

Contains outline of topics (ten) presented at the meeting of the Moscow Naturalists Society, Apr. 8, 1954. Among others discussed were: origin of hot springs; genetic relation of their chemical composition to ore formation and volcanology; effect of high temperatures and volcanic activities on hot springs; their relation to thermal metamorphism of rocks and formation of gases; ionic and other characteristics of hot springs; con-

centration of microelements, their migration and relation to ore formation.

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45747. IVANOVA, EVGENIA NIKO-LAEVNA. Opyt obshcheĭ klassifikaisii pochv. (Pochvovedenie, June 1956, no. 6, p. 82–102, tables.) 53 refs. Text in Russian. French summary in insert. *Title tr:* General classification of soils.

General survey is given of the work of Soviet scientists on principles of soil classification, and the classification of soils in U. S. S. R. based on the genetic theory is outlined. Zones (classes) of arctic tundras, boreal permafrost-taiga and boreal forest-taiga are included in the scheme.

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45748. IVANOVA, EVGENIA NIKO-LAEVNA. Sistematika pochv severnor chasti evropeřskoľ territorii SSSR. (Pochvovedenie, Jan. 1956, no. 1, p. 70–88.) 18 refs. Textin Russian. French summary in insert. *Title tr:* Systematics of soils of the northern part of the European territory of U. S. S. R.

Discussion of the principles of classification of northern soils, based on Soviet literature, proceedings of the Conference of Pedologists, Dec. 7-14, 1954, and on the investigation of northern soils of the U. S. S. R. carried out by the Soil Institute (Pochvennyl institut im. V. V. Dokuchaeva) of the Academy of Sciences. It is proposed to divide the soils of the North, from arctic to northern forest-steppe, into 13 types (p. 75). Features of arctic and tundra soils and their classification into subtypes are briefly outlined (p. 76-79). Copy seen: DLC.

45749. IVANOVA, V. A. Klass Crustacea – rakoobraznye. (In: Leningrad. Vsesoûznyî geologicheskiî institut. Polevof atlas ordovikskoî i silurifskof fauny Sibirskof platformy, 1955. p. 105–116, illus.) Text in Russian. Title tr: Class Crustacea.

A description of the only order represented in the Siberian platform: the Ostracoda, their anatomy, taxonomy, occurrence as fossils, collection, etc. Subsequently 18 forms are treated in turn (eight of them new) including morphology, size, occurrence, etc. Copy seen: DLC.

IVANOVA, V. A., see also Nefskafa, A. I., and V. A. Ivanova. Pervafa nakhodka ostrakod . . . 1956. No. 46989. IVARSSON, REINHOLD, see Haglund, B. Den levande skogen . . . 1955. No. 45380.

45750. IVERSEN, MOGENS. Biblioteker i Grønland. (Grønland, Aug. 1956, nr. 8, p. 295-99, illus.) Text in Danish. *Title tr:* Libraries in Greenland.

Describes plans for setting up a public library service in Greenland, supplying books in both Danish and Greenlandic; a considerable government grant was made for it in 1956. A Danish picture and children's book collection has been placed in 16 schools. Libraries should be built in Godthåb, Julianehåb, Egedesminde and Holsteinsborg and other places served by circulating libraries. Existing book collections are noted.

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45751. IVES, JOHN DAVID. Geomorphological and glaciological investigations in the Torngat Mountains of northern Labrador. (Arctic, 1956. v. 9, no. 3, p. 213–14.)

Describes field work by the author and his wife during July-Sept. 1956 at Upper Kangalaksiorvik Lake inland from Seven Islands Bay (approx. 59°24′ N. 63°50′ W.), at Lower Komaktorvik Lake, 20 mi. south, and in the Abloviak Fiord region on the Ungava Bay side of the peninsula (59°30' N. 65°25' W.). Author concludes that even the highest summits were deeply submerged by continental ice at the height of the ice age. At least two The Tornmajor glaciations occurred. gats do not appear to have been either a "source" area or region of final dispersal of continental ice. Copy seen: DLC.

45752. IVES, JOHN DAVID. A preliminary report on geomorphological investigations in the Torngat Mountains of northern Labrador, with particular emphasis upon the Quaternary glaciations, July-September 1956. [Montreal?], 1956. 18 p. 8 illus. Mimeographed. 19 refs.

The author, assisted by P. Ives, investigated a 600-sq. mi. area in the "central range" of the Torngats, with base camp near Seven Islands Bay (59°10′ N. 64° W.). General geology and physiography are briefly described. Extent of the Wisconsin glaciation, direction of ice movement, and late-Wisconsin conditions are discussed. Author concludes that highest summits were completely submerged by eastward-moving ice at the height of the Wisconsin; local glaciers never reached significant dimensions; final ice movement

was from the west; rapid melting in situ of large ice masses occurred during final stages of Wisconsin; two, possibly three, glacial periods can be recognized; the Labrador-Ungava plateau rather than the Torngats was initial accumulation area in the continental glaciation.

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45753. IVES, JOHN DAVID. Till patterns in central Labrador. (Canadian geographer, 1956. no. 8, p. 25–33, 4 illus.,

2 text maps.) 8 refs.

Describes an area of "rippled till" about 45 mi. southeast of Knob Lake in the upper Ashuanipi River basin. Undulations of the till plain form sub-parallel ridges 150-200 paces wide at one-sixth to one-quarter mi. intervals, with southwestnortheast alignment at right angles to that of the drumlins and eskers. Several small areas are described. Numerous pits dug to depths of ten ft. revealed nonsorted, medium to coarse-grained sand, with an irregular cover of ablation moraine. Ripples are closely associated with a large esker and probably formed contemporaneously with it. No satisfactory explanation for origin of the till pattern has been found. Copy seen: DGS.

45754. IVES, RONALD L. An early speculation concerning the Asiatic origin of American Indians. (American antiquity, Apr. 1956. v. 21, no. 4, p. 420–21.) 4 refs.

Discusses various theories concerning the origin of American Indians and points out that the hypothesis of a migration from northern Asia existed in the 18th century or even earlier, as Father Ignaz Pfefferkorn in his Beschreibung der Landschaft Sonora . . . Köln, 1794–95 (copy in DLC) refers to an earlier treatise on this subject.

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IVLEV, M. I., see Grikhutnik, M. I., and M. I. Ivlev. Sovkhoz na Enisee. 1956. No. 45301.

45755. IZ ISTORII BOR'BY SOVET-SKOGO NARODA protiv inostrannor voennor interventsii i vnutrenner kontreventuisii v 1918 g.; sbornik stater. Moskva, Gos. izd-vo polit. lit-ry, 1956. 574 p. illus., facsims., 2 fold. maps. (1 col.) in pocket. Refs. Text in Russian. Title tr.: From the history of the struggle of the Soviet people against foreign military intervention and inner counterrevolution; a collection of articles.

Editors: S. F. Naĭda (chief), D. A. Kovalenko, and G. V. Kuz'min.

Contains twelve articles by various authors relating to the civil war in 1918-1919, among them one by I. G. Efremenkov: Bor'ba s anglo-franko-amerikanskof interventsief na Severe v 1918 (Struggle with the Anglo-French-American intervention in the North in 1918), p. 142-70. It deals with the Allies' landing at Murmansk with Soviet permission, organization of the anti-Bolshevist front in Kola Peninsula, Kem' and Arkhangel'sk; military operations in 1918 and 1919 and evacuation of the Allied forces in Sept. 1919; defeat of the Russian anti-Bolshevist forces in 1920. 20 refs. in footnotes.

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45756. IZBEKOVA, A. A. Russkie krest'fane, provodniki zemledel'cheskof kul'tury v fakutii. (In: Akademia nauk. fakutskif filial. Institut fazyka, literatury i istorii. Vedushehafa rol' russkogo naroda . . ., 1955. p. 70–82, tables.) 19 refs. Text in Russian. Titte tr.: The Russian peasants, introducers of agriculture into Yakutia.

Discusses the introduction of agriculture by Russian peasants in the 17th century, the acclimatization of cereal (barley, rye, wheat, oat), hemp and other crops; introduction of farm machinery by the 19th century religious deportees (skopfsy, etc.), and the native population's transition from animal husbandry to agriculture in the latter 19th century. Some comparative 19th century agricultural statistics are given.

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**45757.** *J. L. NEWS*, no. 1, 1947?-no. 31, 1956. København, J. Lauritzen Lines, 1947?-1956, *in progress*. Issued three times yearly.

Contains Company news, ships operations, descriptions and photographs of new vessels, including those for polar service; also general news and photo-

graphs of Denmark.

The 1956 issues list 14 polar and special ice-strengthened vessels in operation or under construction (no. 29, p. 3); new department for chartering vessels designed for ice-filled waters (no. 29, p. 8); seven-year contract for shipping metal concentrates from Mesters Vig, northeast Greenland, to Europe and U. S. A. (no. 29, p. 8); Company's polar navigation operations (no. 29, p. 11-12); launching of Magga Dan on June 1, strongest polar ship, apart from ice-breakers (no. 30, p. 5-6, 35); launching

of ice-strengthened Anila Dan for Greenland trade, May 26, with description of the vessel (no. 30, p. 7-8); 1956 operations of Kista Dan (no. 30, p. 9); regulations against shooting polar bears in Greenland (no. 30, p. 17); delivery of Magga Dan Sept. 27 and description of ship (no. 31, p. 5-6, 42); description of polar ship Frida Dan, launched Sept. 18 (no. 31, p. 9-10); rebuilding Silja Dan for navigation in East Greenland waters in connection with ore shipment from Mesters Vig (no. 31, p. 16); photographs from Greenland voyages by Silja Dan and Kista Dan (no. 31, p. 18-20, 24, 28).

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JACHOWSKI, LEO A., see Knight, K. L., and L. A. Jachowski. Arctic and subarctic insect . . . control. 1956. No. 46016.

JACKSON, M. N., see Semerov, P. F., and M. N. Dzhakson. Tekhniko . . . analiz Takhtarvumchorrskogo mestorozhdeniâ. 1933. No. 47897.

JACOBI, ANNE, see Salling, A., and others. Danskbogen II-IV . . . 1955, 1956. No. 47761.

JACOBS, WOODROW COOPER, 1908-, see Pettersen, S., and others. Meteorology . . . Arctic. 1956. No. 47336.

45758. JACOBSHAGEN, E. Die Koppelungen im eiszeitlichen Naturgeschehen. (Orion, June 1956. Jahrg. 11, no. 11-12, p. 496-501, illus., maps.) Text in German. *Title tr.*: The ties in natural history of the ice age.

A phytogeographical and paleobotanical account of Eurasia during the glacial and interglacial periods. The changes and movements of the tundra, taiga, hardwood-forest and steppe are traced as determined by the climatic fluctuations and by the advancing and receding iceeaps. The formation of soils and secondary climatic characteristics are also discussed as well as present-day actions of frost and ice.

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45759. JACOBSON, J. V. New educational programme for the Northwest Territories. (Northern Affairs bulletin, Feb.—Mar. 1956. v. 3, no. 2, p. 11-14, illus.)

Canadian (federal) Government is responsible for education of Eskimo and Indian children, the Territorial Government for others. Less than 40 percent of

native children attend school regularly. Growth of population and decline of game and fur resources necessitates their education for other than traditional occupations. Plans are described for expanding schools and building hostels to board children, the hostels, built by Government, to be turned over to Roman Catholic and Anglican churches. Aklavik, Fort Simpson, Yellowknife, Fort Smith, Fort McPherson, and Frobisher Bay are proposed sites; a 250-pupil hostel at Aklavik is sketched. Copy seen: CaMAI.

JACOBSON, STIG., see Ångström, A. K., and S. Jacobson. Temperaturmätningar i Vänern och Götaälv. 1940. No. 43469.

**45760. JACOT, MICHAEL.** Aklavik. (Canadian nature, Mar.-Apr. 1956. v. 18, no. 2, p. 57-62, 7 illus.) Reprint of No. 35425. *Copy seen:* DGS.

45761. JACOT, MICHAEL. The Mackenzie's tugboat Vikings. (Imperial oil review, June 1956. v. 40, no. 3, p. 11–15, 10 illus.)

Popular account of fuel delivery by the Yellowknife Transportation Co. tugs on the Mackenzie River system. Four tugs haul nearly eight million gallons of oil products a year in 12 barges to Yellowknife, Aklavik, Hay River, Fort Simpson, and other settlements between early June and mid-Oct. Some of the personnel and daily routine are briefly described.

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45762. JÄRNEFELT, HEIKKI. Plankton als Indikator der Trophiegruppen der Seen. Helsinki, 1952. 29 p. 3 diagrs., 9 tables. (Suomalainen tiedeakatemia. Toimituksia, Sarja A-IV, Biologica, no. 18) 12 refs. Text in German. Title tr.: Plankton as indicator of the trophic grouping of lakes.

A general planktonic study based on examinations of 329 lakes, some of them in the arctic region of Finland. The aim of the investigation is to determine how far animal or plant forms or their combinations can be indicative of the trophic nature of a lake. It is concluded that in fertile seas, plant or animal indicators are reliable signs of their trophic status, not the case in poor water bodies.

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45763. JALAS, JAAKKO. Rhacomitrium lanuginosum (Hedw.) Brid. als Klimaindikator in Ostfennoskandien. (Suomalainen eläin- ja kasvitieteellinen seura Vanamo. Tiedonannot (Archivum)

1955. v. 9, Suppl., p. 73-88, illus., text map) 90 refs. Text in German. Title tr.: Rhacomitrium lanuginosum (Hedw.) Brid. as climate indicator in eastern Fennoscandia.

Qualifications of a plant as climate indicator are discussed and applied to this species of aerocarpous moss; its localities are listed by geographic regions, including: Kuusamo, the following sections of Finnish Lapland: Kemi, Imandra, Enontekio Inari, Petsamo; also Tuloma and Murman districts in Russian Lap-Copy seen: DLC. land.

JAMES, D. G., see Bull, G. A., and D. G. James. Dust . . . stratosphere . . . 1956. No. 44194.

JANELID, INGVAR. 45764. Drilling and blasting equipment and methods in Swedish mines. (Canadian mining journal, Dec. 1956. v. 77, no. 12, p. 71–76; Jan. 1957, v. 78, no. 1, p. 60–65, illus., diagrs., graphs.) 20 refs.

Deals with practices in iron ore mines, the northernmost: Kiruna and Malmberget. Almost all production will be by underground operations by 1960, when open-pit mining ends at Kiruna. Methods have been developed to deal with very hard ore and waste rock conditions and steeply dipping orebodies. Drilling and blasting techniques are described; planning principles, mining operations, loading, haulage, primary crushing underground, and hoisting, etc., are explained, and exemplified from Kiruna and Malmberget among other mines. Future developments are predicted.

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45765. JANELID, INGVAR. Matériels et méthodes en usage dans l'exploitation minière moderne en Suède. (Revue de l'industrie minérale, June 1956. Numero special 1F, La mine future, p. 76-100, illus., diagrs., graph.) 20 refs. Text in French. Title tr.: Equipment and methods in use in modern mining operations in Sweden.

Includes brief description of underground mining methods, machines used, and underground transport of iron ore at Kiruna and Malmberget, northern Sweden, with photographs and diagrams of equipment and installations.

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45766. JANSEN, J. VICTOR. The life of the Eskimos; an educational exhibition at the Museum voor Land- en Volkenkunde in Rotterdam. (Antiquity and survival, May 1955, nr. 1, p. 83-92, illus.,

diagrs., text map.)

Contains a general discussion of various aspects of Eskimo life as introduction to the exhibition opened January 1955, of ethnographical objects and models in appropriate grouping, supplemented by photographs, drawings and sketches. The dwelling, food supply, and transportation are mainly discussed. A map of Eskimo territory is included.

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JANSSEN, GÜNTER. 45767. Störungen der Thermoregulation und endogene Hypothermie. (Monatsschrift für Kinderheilkunde 1956. Bd. 104, Heft 12, p. 478-80, illus.) 10 refs. Text in Title tr.: Disturbances of German. thermoregulation and endogenous hypothermia.

Following an introduction on endogenous hyperthermia and the very rare endogenous hypothermia, the author presents three of the latter cases, all in children less than 18 months old, with tubercular meningitis. Hypothermia varied between 27 and 34.5° C. One case thoroughly examined showed upon autopsy calcified, vegetative nerve cells in the hypothalamus.

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45768. JANSSON, CHARLES ANTON, Coleopteren aus dem Sarekgebiet. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 4, Zoologie, Lfg. 9, pub. 1926. p. 895–938) 47 refs. Text in German. Title tr.: Coleoptera from the Sarek region.

The geographic distribution of beetles in the Sarek Mts. is discussed: localities visited by B. Poppius are listed with notes on the species collected; a systematic account follows of 219 species (approx. 2200 specimens), with a supplementary list of four obtained in the same region by other collectors. opacus var. b. is described as new.

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45769. JANSSON, JAN ERIK. breakers and their design. (European shipbuilding, Oslo, 1956. v. 5, no. 5, p. 112-28; no. 6, p. 143-51, diagrs., illus., map, tables) 36 refs.

The characteristics of sea ice in polar and temperate regions are outlined; the development of ice-breakers is reviewed, and the designs of modern cargo and passenger-carrying ice-breakers as well as those built for research purposes are treated in detail. The mechanics of ice breaking at constant speed and in bursts, model experiments in ice breaking, and the work of ice-breakers in pack ice are discussed. The structural features of ice-breakers are examined individually, including hull form, diesel-electric machinery, and adjustable-blade propellers. The results of model experiments on the resistance and speed of ice-breakers with two stern propellers but without fore propellers and of calculations of the wake fraction and thrust-deduction coefficient are given. The design requirements for fore propellers, and longitudinal hull strength, shell plating, and transverse- and local-strength requirements are considered. The equipment and accommodations of modern ice-breakers are described. Data are tabulated on the design characteristics of ice-breakers built in various countries since 1890, of model ice-breakers, and the thickness of hull plating in the ice zone amidship and in the fore body of selected vessels.

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45770. JAPAN. HYDROGRAPHIC DEPT. Hydrographic data for the northern part of the North Pacific. [Tokyo], 1941. 40 p., 69 fold. charts. (*Its:* Publication, no. 1) Text in Japanese.

Maps in medium scale, of the Okhotsk Sea, Bering Sea and Gulf of Alaska, with isopleths or data, storm tracks or other presentation of data on: cyclone trajectories (map no. 3); monthly cyclone frequencies (4-15); pressure and wind, cloudy days, days with fog, fog regimes (16-39); ocean currents (40-41); waves (42-45); relation between waves and wind (46-47); ocean temperature and density (48-53); periods of sea ice formation and growth, iceberg tracks (54-55); sea-water transparency and color (56-63); tidal variations, frequencies, currents on all coasts (64-66); shipping routes (67-69). Copy seen: DLC.

JAROSZ, J. A., see Gunderson, H. L., and others. Mammal observations . . . Back River . . . 1955. No. 45341.

45771. JASPER, R. L., and others. The accumulation of fat in the liver of rats exposed to cold. Fort Knox, Ky. September 1956. 2, 12 p. illus., tables. (U. S. Army Medical Research Laboratory. Re-

port no. 256) 18 refs. Other authors: H. M. Levy and H. Platt.

Report of investigation designed to elucidate the mechanism of liver fat accumulation in rats exposed to cold of 1° to 4° C. The process was found to be comparable to that resulting from treatment with methionine and not prevented by adrenal demedulation or adrenergic blocking agents nor affected, in female animals, by testosterone or estrogen.

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**45772. JASPER, R. L.** Effect of estrogen and ethionine on cold-induced fatty liver of rats. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 118.)

Accumulation of liver fat during cold exposure of females was at a rate comparable to that seen in ethionine-treated, fasting rats at room temperature. The lipotropic effects of ethionine in cold-stressed rats was found to be related to the sytemic estrogen level.

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JASPER, R. L., see also Denison, M. E., and others. Effect of castration . . . to cold on oxygen uptake of rat tissues. 1956. No. 44590.

JASPER, R. L., see also Denison, M. E., and R. L. Jasper. Glucuronidase activity . . . animals . . . low . . . temperature. 1956. No. 44591.

45773. JASPERSEN, PAUL. Über Schmelzvorgang und Wärmehaushalt im Zentralgebiet des Inlandeises. (Eiszeitalter und Gegenwart, Aug. 1955. Bd. 6, p. 71–74) 5 refs. Text in German. Summary in English. *Title tr.:* The melting process and heat economy in the central zone of the inland ice.

The internal temperature regime at the center of the Greenland icecap is analyzed theoretically under the assumptions of an ice thickness of 2500 m., equilibrium between accumulation and ablation, and an annual ice increase of 38 cm. with a specific gravity of 0.9. The heat required for melting and that available from internal and bottom friction, pressure, solar radiation, and heat of the earth are examined. The results show that no melting can take place at greater depths, except at the bottom. Copy seen: DLC.

45774. JAULMES, CHARLES, and others. Métabolisme de l'alcool chez les animaux soumis à l'hibernation artificielle. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 6, p. 1094–97,

illus.) 7 refs. Text in French. Other authors: J. Delga and C. G. Bobo. Title tr.: Alcohol metabolism in animals submitted to artificial hibernation.

Account of experiments with rabbits given 10 ml/kg. ethanol internally and made hypothermic. The lowered body temperature slowed the rate of diffusion and oxidation of the alcohol. The partial inhibition of oxidation resembles the reduction in 0<sub>2</sub>-consumption and of enzyme action.

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JEAN, E., see Vernejoul, R. de., and others. Tentatives de prolongation de l'arrêt circulatoire sous hypothermie . . . 1956. No. 48726.

45775. JEANNET, ALPHONSE, 1883-Sur quelques Échinides fossiles étrangers. (Société géologique de France. Bulletin, 1955. série 6, t. 5, fasc. 7-9, p. 553-61, 17 illus. on 2 plates, diagr., table) 15 refs. Text in French. *Title* tr.: On several foreign fossil echinids.

Includes (p. 553-55) systematic description of Tithonia arctica n. sp., a new sea urchin from the Valanginian (Cretaceous) of Wollaston Forland, East Greenland (74°27′ N. 19°45′ W.). Specimen was found by Dr. Wolf Mayne during the Danish Geological Expedition to East Greenland, 1936-1938.

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45776. JEGIND, AAGE. Grønlænderhjemmet. (Grønland, Oct. 1956, nr. 10, p. 395–400, illus.) Text in Danish. Title tr.: The home for Greenlanders.

Relates details of the history of the home for Greenlanders, established in Copenhagen in 1878. Its building was ready in 1880, and six Greenlanders moved in; but its activities were discontinued in 1896, as the training of Greenlanders in Denmark was considered a failure. This training was soon resumed, however, the Greenlanders boarding with private families all over the country. In 1928 another Greenlanders' home was founded, and moved to a larger house in 1952. It is now changed in character, rather a temporary residence and meeting-point for Greenlanders than a permanent home. Copy seen: DLC.

45777. JEGIND, AAGE. Den grønlandske lærlingeuddaunelse i Danmark. (Grønland, May 1956, nr. 5, p. 189–99, illus.) Text in Danish. *Title tr.:* The training of Greenlandic apprentices in Denmark.

Such training initiated in 1837 has continued periodically, and during 1945–55 about 140 young Greenlanders were sent to Denmark. Details on the organization of training in various trades, shop and office work, and of fishermen and sailors are given.

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JELLINEK, HARRY, see Harsing, L., and others. Hypothermia hatása . . . 1956. No. 45458.

45778. JELLISON, WILLIAM LIV-INGSTON, 1906-, and others. An outbreak of schistosome dermatitis in Alaska. (In: Alaskan Science Conference . . 1952. Proceedings, pub. 1954, p. 153-54.) 4 refs. Other authors: J. M. Geary, R. Harkema, and N. C. Ross.

Account of outbreak of "swimmers' itch" in 1940 or 1941 at the village of Beaver. Observation on snails in the same locality made in 1951 indicate that the snails are infected with cercarize of the genus *Trichobilharzia* which are known to produce this kind of dermatitis. *Copy seen:* DGS.

45779. JENISTA, CHARLES O., Jr. Synoptic study of abnormal temperature regime in the Anchorage, Alaska, area during June 1953. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 123.)

Contains abstract of paper describing a determination of the factors which produced abnormally high temperatures during June 25–27, 1953. Forecast indicators are derived.

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JENNER, CHARLES EDWIN, 1919-, see Engels, W. L., and C. E. Jenner. The effect of temperature . . . testicular recrudescence . . . 1956. No. 44784.

45780. JENNOV, JOHANNES GER-HARDT. Isbjørnen. (Atuagagdliutit: Grønlandsposten, Aug. 23, 1956. Ukiut 96-iat, nr. 17, p. 3-6, 20, illus.) Text in Danish and Eskimo. *Title tr.:* The polar bear.

Describes the polar bear in Greenland, its habits, feeding, young, etc., and the hunting of it. Extinct in West Greenland, it lives in the sea ice off North and East Greenland. The stock, reduced since the turn of the century, is now protected June-Oct. in East Greenland.

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45781. JENNOV, JOHANNES GER-HARDT. Moskusoksen som tamdyr i Vestgrønland. (Naturens verden, 1950. Årg. 34, p. 250-57.) Refs. in text. Text in Danish. *Title tr.:* Musk oxen as domesticated animals in West Greenland.

A musk ox population of 90,000 can be maintained in northwest Greenland in fifty years' time with 10,000 slaughtered yearly, yielding 1200 tons of meat. This opinion is based on comparisons between north, northeast, and northwest Greenland; the iee-free area, quality of vegetation, and experience with musk oxen sent to Norway and to Nunivak Island in the Bering Sea are also considered. The animal is believed more important for the meat, than the milk and wool production.

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45782. JENNOV, JOHANNES GER-HARDT. Moskusokserne i Grønland. (Atuagagdliutit: Grønlandsposten, Jan. 26, 1956. Ukiut 96-iat, nr. 2, p. 9-11.) Text in Danish. *Title tr.:* The musk ox in Greenland.

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Polemic against Christian Vibe's article on problems of the Greenland musk ox (No. 43166), Jennov contends that West Greenland can feed about 90,000 animals (Vibe: 10,000-12,000), and that the reduction of musk ox cows is not due to excessive hunting but solely to climatic conditions.

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45783. JENNOV, JOHANNES GER-HARDT. Nogle betragtninger over forskellige forhold i Nordøstgrønland. (Naturens verden, 1952. Årg. 36, p. 318-36, 7 illus.) 21 refs. Text in Danish. Title tr.: Some observations on various conditions in northeast Greenland.

Musk ox and reindeer capacity of northern Greenland are considered with respect to vegetative area, climate, natural enemies, disease and hunters. Slow renewal of overgrazed areas is stressed, and, especially decimation of animals during the winters (infrequent) when icing prevents grazing. Since 1823, when the last East Greenland Eskimos were seen, the numbers of musk ox and reindeer have varied largely with natural conditions. Jennov's views are discussed by A. Pedersen, q. v.

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45784. JENSEN, ARNE. Component sugars of some common brown algae. Oslo 1956. 8 p. diagr., 3 tables. (Norsk institutt for tang- og tareforskning. Report no. 9) 9 refs. Summary in Norwegian.

Component sugars of spring and autumn collections of 12 species of brown algae from Reine, Lofoten, Norway, were identified. All the hydrolysates investigated contained complex mixtures of monosaccharides, the latter being identified by paper partition chromotography. Results of the examination are tabulated separately for the seasonal collections. A brief discussion of the consequences of the presence of interfering sugars on the laminarin analysis is given.

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45785. JENSEN, ARNE. Preliminary investigation of the carbohydrates of Laminaria digitata and Fucus serratus. Oslo, 1956. 11 p. 3 diagrs., 2 tables. (Norsk institutt for tang- og tareforskning. Report no. 10) 12 refs. Summary in Norwegian.

The distribution of component monosaccharides between different groups of polysaccharides in two species of brown algae was investigated. The methods of treating the two algae differed and are discussed separately; the results are tabulated. The samples investigated were cut at Reine, Lofoten, Norway, in 1951.

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45786. JENSEN, ARNE, and others. The quantitative determination of alginic acid. Oslo, 1955. 20 p. 5 diagrs., 5 tables. (Norsk institutt for tang- og tareforskning. Report no. 12) 39 refs. Summary in Norwegian. Other authors: I. Sunde and A. Haug.

In research on several species of seaweeds collected along the Lofoten coast, it was determined that for routine analysis the decarboxylation method was most convenient for determination of alginic acid. Copy seen: DA.

JENSEN, ARNE, see also Haug, A., and A. Jensen. Seasonal . . . chemical composition of [algae] . . . 1954. No. 45472.

JENSEN, CHRISTIAN ERASMUS OT-TERSTRØM, 1859-, see Arnell, H. W., and C. E. O. Jensen. Die Moose des Sarekgebietes . . . 1907–1910. No. 43746.

45787. JENSEN, JAY M., and others. Possibilities and limitations of differential brain cooling in dogs. (In: National Research Council. Division of Medical Sciences, The physiology of induced hypothermia...symposium, Oct. 1955, pub. 1956. p. 271-78, illus. tables.) 9

refs. Other authors: W. M. Parkins, and H. M. Vars.

Account of experiments in cooling the brain, the heart and the body core of dogs "somewhat selectively" with the aim of studying separately the protective action of hypothermia on the brain and its adverse action upon the heart. Complete circulatory occlusion was not injurious with moderate cold (brain 20°, body 30° C.) and there seems to be less cardiac complication with this method.

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JENSEN, JOHANNES V., see Bogen om Knud . . . 1945. No. 44073.

JENSEN, K. ERIK, 1898—, see Denmark. Grønlands Styrelse. Beretning
. . . Laegeekspedition 1947–48. 1949.
No. 44594.

45788. JENSEN, ORLA BRANDT. Indkomstforholdene i Grønland. (Grønland 1953, hefte 7, p. 247-53, illus., tables.) Text in Danish. Title tr.: Income levels in Greenland.

Prices for fishing and hunting products and those for equipment are compared for 1939-40, 1949-50 and 1953. Over the whole period, sales prices of Greenland products have risen more than purchase prices of equipment; but from 1949-50 onwards the data are less decisive and developments possibly less favorable for the producers. The producers are considered to have benefitted from the increase in production by a higher standard of living. Production has, however, been stagnant since the end of the 1940's. Increase of wages and salaries of government employees in Greenland is shown for the same years. All personnel except the Danish officials have received increases equivalent to more than the rise in cost of living. The Danish officials' salaries have risen relatively less as they are regulated according to price changes in Denmark. Copy seen: DLC.

45789. JENSEN, OSKAR. 12 cases of postprimary erythema nodosum in tuberculosis patients under a morbilli epidemic. (Acta tuberculosea scandinavica, 1952. v. 27, fasc. 3-5, p. 343-52, illus, tables.) 5 refs.

Account of cases studied at the Julianehåb hospital during the 1951 measles epidemic. After the latter, about two thirds of the tuberculosis patients of the hospital showed a secondary increase of temperature and in half of them erythema nodosum developed. The nature of the latter is analyzed. Copy seen: DNLM.

JENSEN, OSKAR, see also Christensen, P. E., and others. An epedimic of measles . . . 1951 . . . 1. 1952. No. 44357.

JENSEN, OSKAR, see also Christensen, P. E., and others. An epidemic of measles . . . 1951 . . . 2 . . . 1953. No. 44358.

JENSEN, OSKAR, see also Christensen, P. E., and others. An epedemic of measles . . . 1951 . . . 3 . . . 1953. No. 44359.

**45790.** JENSEN-HAARUP, A. C., and H. LINDBERG. Halvvingar: Hemiptera. (*In:* Sjöstedt, Y. Insektfaunan inom Abisko nationalpark, III, pub. in Svenska vetenskapsakademien. Skrifter i naturskyddsärenden, 1931, nr. 18, p. 37–42.) Text in Swedish. *Title tr.:* Hemiptera.

Lists 42 species collected, mostly in the Abisko region of Swedish Lapland, by K. H. Forsslund in summers 1927–1930; locality, date, habitat, etc., are noted. Eight families of H. Heteroptera and two of Homoptera are represented.

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45791. JERMAIN, G. D., and F. A. RUTLEDGE. Diamond drilling the Gypsum Camel prospect, Lyoukeen Cove, Chichagof Island, southeastern Alaska. Washington, D. C., Apr. 1952. 6 p. 4 text maps, sections. (U. S. Bureau of Mines. Report of Investigations 4852.) 4 refs.

Contains results of sampling and drilling at this cove (57°53′ N. 134°58′ W.) during Apr.-Aug. 1948. Accessibility, physical features, history and development of the property are briefly described; also drilling methods. The gypsum is in a small synclinal basin lying uncomformably on buff brecciated limestone. Formations cut by one of the drill holes are listed, and analyses are given for 22 samples.

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45792. JESS, ARTHUR. Some aspects of ground-ice control on Alaskan highways. (In: Alaskan Science Conference. . . 1952. Proceedings, pub. 1954, p. 25–26.)

The various forms of ground ice which affect the normal maintenance of roads in Alaska and their control are described. Ground icings, which form from the seepage of ground water into sidehill cuts and build into the roadway, are the greatest hazard to traffic. One method of controlling this type of ice formation consists in placing a canvas fence supported by poles between the seepage and the road, thus diverting the flow parallel to the road. Icing from rivers may be prevented by building snow banks on the ice across the river and near rapids above the road crossing, and by chopping a hole through the ice to drain the water. Where roads are not kept open in winter and icings are allowed to form, they may reach a thickness of more than 20 ft. and cover a section of the road more than 1000 ft. in length. The removal of the ice in spring is achieved by blasting, ripping, and cutting. Sprinkling of coal dust, dirt, ashes, or salt has proved effective in accelerating thawing.

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**45793. JESSIMAN, E. G.** Trimetrogon mapping. (Canadian surveyor, Jan. 1956. v. 13, no. 1, p. 12–15.)

Improvements in trimetrogon plotting employed by the Canadian Dept. of Mines and Technical Surveys since 1949 are discussed briefly. The method employs three cameras in constant angular relationship for aerial photogrammetry Flight lines were run straight north and south, 16 mi. apart, in the far North in order to compensate for lack of horizontal control. Lateral ties to these rims should be particularly effective when plotting Ellesmere Island since many large snow fields break or weaken the normal north-south flight lines. More than two million square miles have been plotted to date. Copy seen: DLC.

45794. JESSON, EDWARD R. From Dawson to Nome on a bicycle. Edited by Ruth Reat. (Pacific Northwest quarterly, July 1956. v. 47, no. 3, p. 65–74, 2 illus., port.) ref.

Contains extract from Edward R. Jesson's Alaska diary and from a letter of Sept. 25, 1900 in possession of the editor. Jesson arrived in Kenai Peninsula, in 1896, and went to the Yukon during the gold rush of 1898. In 1899 he operated a small store and post office at Star City, 120 miles down the Yukon from Dawson, and during Mar. 1-29, 1900, made a bicycle trip to Nome, where the gold rush was on. This diary records the trip with comments on advantages of bicycle over dog team. Jesson returned

to Dawson at the time of the strike in the Tanana field. Copy seen: DGS.

JIRKA, J., see Brod, J., and others. Changes . . . renal haemodynamics and functions . . . cold stimulus. 1956. No. 44140.

45795. JÖCHLE, WOLFGANG. Über den Einfluss des Lichtes auf Sexualentwicklung und Sexualperiodik bei Säugern. (Endokrinologie, 1956. Bd. 33, Heft 3-4, p. 129-38, illus., tables.) 36 refs. Text in German. *Title tr.:* The effect of light on sexual development and periodicity of mammals.

Account of observations on female rats kept in permanent light or darkness. The first condition stimulated precocious maturation in baby animals and caused continuous oestrus in young ones. Darkness retarded the appearance of oestrus, but did not abolish the sexual rhythm. Hence light appears to have a stimulating effect upon the follicles. The route of this light effect is pointed out.

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45796. JÖCHLE, WOLFGANG. Über die Wirkungen eines in Bildung und Ausschüttung lichtabhängigen Hormons bei Säugern. (Endokrinologie, 1956. Bd. 33, Heft. 3-4, p. 190-94, illus.) 23 refs. Text in German. *Title tr.:* Effects of a mammalian hormone, dependent on light in its formation and secretion.

Account of experiments with adult female mice and young female rats, administered ACTH, a "melanophore-hormone" and "intermedine." The first two preparations had a pronounced gonadotropic effect. In ACTH the latter is attributed to a pigment-hormone fraction which is apparently dependent on light both during its formation and activity.

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JÖNSSON, AXEL, see Hamberg, A., and A. Jönsson. Meteorologische Beobachtungen auf dem Pårtetjåkko . . . 1933. No. 45403.

45797. JØRGENSEN, P. RICHTER. Clinical temperature of the normal tympanic membrane at basal conditions. (Acta 'oto-laryngologica, 1956. v. 46, fasc. 1, p. 21–26, illus. table.) 10 refs.

Measurements on 88 persons at basal conditions, showed a decline in drum temperature amounting to 0.8° C. between the age of 5 and 80. Up to the age of 50, the drum temperature was

higher than rectal temperature, after which it became equal or lower.

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JØRGENSEN, REIDAR, see Gjærevoll, O., and R. Jørgensen. Fjellflora. 1952. No. 45130.

45798. JØRSTAD, FINN. Notater om sildrearter (Saxifraga) ved Isfjorden på Svalbard. (Blyttia, 1952. Bd. 10, hefte 3, p. 69–72, table.) 3 refs. Text in Norwegian. Summary in English. *Title tr.*: Notes on saxifrages near Isfjorden in Svalbard.

Reports on occurrence and flowering conditions of 11 species of saxifrage, observed in several locations in the Isfjord environs during the expedition to Svalbard in 1948 sponsored by the Norsk Polarinstitutt.

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45799. JØRSTAD, IVAR, 1887—. Puccinia blyttiana, a new member of the east arctic rust flora. (Blyttia, 1950. Bd. 8, hefte 3, p. 81–90, 2 illus.) 18 refs. Text in English. Summary in Norwegian.

Puccinia blyttiana Lagh. was found on Ranunculus affinis R. Br. in Tempelfjord at 78°24′ N. in the course of the Norsk Polarinstitutt's scientific expedition to Svalbard in 1948. This is the first known occurrence in the Arctic of the rust commonly associated with the American Rockies but otherwise widely and sparsely distributed. Misidentifications and priority of names of this and similar rusts are clarified.

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JØRSTAD, IVAR, 1887—, see also Hylander, N., and others. Enumeratio Uredinearum . . . 1953. No. 45666.

45800. JOHANNESSEN, THOR WERNER. Det internasjonale geofysiske år 1957–58 og litt om dets historiske bakgrunn. (Polarboken 1956, p. 7–23, illus., text map.) Text in Norwegian. *Title tr.*: The International Geophysical Year 1957–1958 and something of its historical background.

Summary of interests leading to the unified scientific studies of the First and Second International Polar Years. Some of the stations set up by participating nations and special fields of investigation are described. The program of the IGY 1957-58 is characterized by its global scope, use of recently developed equipment and techniques, wider participation, and concerted observations on special days. International teams, and

stations on major land sites and floating ice are involved in the investigations in the Arctic.

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45801. JOHANSEN, HANS CHRISTIAN, 1897- . Polarraeven på Kommandørøerne. (Naturens verden, 1950. Årg. 34, p. 37-59, 9 illus., text map.) Text in Danish. *Title tr.:* The polar fox on the Commander Islands.

During wildlife studies on the Commander Islands, 1928-31, observation of the polar fox (Alopex beringensis) led to several important conclusions. Its recent decrease in numbers is due chiefly to the intestinal worm brought in by mice in ships' cargo. About 50 percent of each year's pups die during their first summer; most of them would survive if feeding conditions were good; but the critical period is summer when the feeding range is limited to the environs of the cub den. A program of supplemental feeding was initiated, utilizing waste products from local fisheries. Copy seen: DLC.

45802. JOHANSEN, HANS CHRISTIAN, 1897—. Revision und Entstehung der arktischen Vogelfauna, erster Teil: Einführung und Revision der Gaviae-Galli. København, Ejnar Munksgaard, 1956. 98 p. 9 maps. (Acta Arctica, fasc. 8.) 135 refs. Text in German. Summary in English. *Title tr.*: Revision and origin of the arctic bird fauna, part one: introduction and revision of Gaviae – Galli.

Contains discussion of the limits and subdivisions of the Arctic, and of geological data, followed by detailed consideration of Pleistocene glaciations and refuges, especially the last ice age, as factors of major importance in the problem of the origin of the arctic avi-The birds are divided into fauna. various categories ranging from higharctic to arctic-alpine; and within each of the arctic categories, according to their longitudinal distribution. An ecological division (sea-birds, land- and shore-birds) is also presented. following orders are analyzed and their origin discussed: Gaviae, Podicipedes, Tubinares, Steganopodes, Anseres, Accipitres and Galli, i. e. the ducks, geese, etc.,-gulls, terns, etc.

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45803. JOHANSEN, HANS CHRISTIAN, 1897- . Die Vogelfauna Westsibiriens, Teil 3, Non-Passeres, Fortsetzung 1: Striges. (Journal für Ornithologie,

Apr. 1956. Bd. 97, Heft 2, p. 206-219.) Text in German. *Title tr.:* The avifauna of western Siberia, pt. 3, continu-

ation 1: Striges.

Contains data on the taxonomy, life habits, ecology and geographical distribution of 12 birds. Two of them Nyctea scandiaca and Strix nebulosa, occur beyond Arctic Circle to 73° N. This is a continuation of Arctic Bibliography No. 8184, 29891, 35463, 40611.

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45804. JOHANSEN, HERBERT O. World's toughest building project. (Popular mechanics, Aug. 1956. v. 169, no.

2, p. 86-91 +, illus., map.)

Contains a general illustrated account of activities at radar station sites in northern Canada. Supply operations by ship, tractor train, and aircraft, housing structures, site selection, etc., are described briefly; some statistics are given on numbers of units involved.

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45805. JOHANSSON, BENGT, and others. Electrocardiographic observations on patients operated upon in hypothermia. (Acta medica scandinavica, 1956. v. 155, fasc. 4, p. 257–69, illus.) 31 refs. Other authors: G. Biörck, K. Haeger and B. Sjöström.

Contains an analysis and discussion of electrocardiograms from eight patients made hypothermic to 25°-26° C. for cardiac surgery; conditions during rewarming are included. Four of the patients had cardiac circulation arrested for 7-17 minutes. The need for experimental studies on humoral factors during hypothermia is stressed.

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JOHANSSON, BENGT, see also Biörck, G., and B. Johansson. Comparative studies on temperature effects . . . electrocardiogram . . . vertebrates. 1955. No. 44025.

45806. JOHNSEN, OLAF, 1880—. Meteorologi og oseanografi for sjøfolk [av] Arthur Stene og Petter Dannevig. Autorisert til bruk ved sjømannsskolene. 9. utg. av O. Johnsen og Z. Bryns bok med samme tittel. Oslo, Aschehoug, 1953. 208 p. illus. Text in Norwegian. Title tr.: Meteorology and oceanography for mariners [by] Arthur Stene and Petter Dannevig. Authorized for use in the school for seamen. 9th edition

of O. Johnsen and Z. Bryn's book of the same title.

Includes in the meteorology section (p. 7-150) principles pertinent to arctic weather and world maps for general comparisons; location of major fog banks, air pressure and wind systems, radio reporting of weather for the whole Norwegian coast and fishing banks off north Norway (p. 144-45), optical and electrical phenomena of the atmosphere, auroras (p. 148-50), etc. The oceanography section includes consideration of Norwegian sea temperatures (p. 162), ice conditions (p. 165), currents in the North Atlantic (p. 170-71), etc.

\*\*Copy seen: DLC.\*\*

45807. JOHNSEN, SIGURD, 1884-1949. Familieliv hos fuglene. (Naturen, Mar. 1950. årg. 74, nr. 3, p. 65-74.) Text in Norwegian. *Title tr.:* The family life of birds.

Among birds there is wide variation in mating, nestbuilding, and rearing of young. In an extended discussion, observations of certain shearwaters and puffins, the latter on the island of Røst in the Lofotens, are cited to show differences in parental action toward the young during the nesting period and when old enough to fly. The parents provide for the helpless young but leave them, when fledged, to fend for themselves. The young birds must learn to fly before they become too heavy.

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45808. JOHNSON, FRED. Manitoba mining review. (Canadian mining journal, Feb. 1956. v. 77, no. 2, p. 92-93,

illus., text map.)

Value of mineral and crude oil production in 1955 totalled \$69,979,841. (1954: \$35,106,922), the increase in value of metal production due to Sherrit Gordon Mines at Lynn Lake (56°51' N. 101°03' W.) going into full production. Annual nickel production of 20,000,000 lbs. and 10,000,000 lbs. of copper is expected to begin by Mar. 1956; annual cobalt production is now 350,000 lbs. and fertilizer capacity is 70,000 tons. Two new orebodies have been located. Exploration for nickel in the Fox River (56°03' N. 93°18' W.), Mystery Lake (55°51' N. 97°44' W.), and Moak Lake (55°56' N. 97°31' W.) areas is briefly described. Copy seen: DGS.

45809. JOHNSON, FREDERICK ASH-BY, 1903— . Waterpower possibilities of Bradley Lake, Alaska. With a chapter on Tentative geologic conclusions on Bradley Lake power site, by Kenneth S. Soward. Washington, D. C., Jan. 1956. 85 p. 4 illus., 4 maps (3 fold.), 8 tables. Mimeographed. (U. S. Geological Survey. Reports, open file series, no. 376.) 3 refs.

Bradley Lake (approx. 59°45' N. 150°45' W.) and Bradley River in southwest Kenai Peninsula were investigated in July-Aug. 1955. Climate and hydrology are described (with tables of runoff records and climatic data); also factors that would affect operation of power plants such as sedimentation, ice on the reservoir, low winter temperatures. The reservoir site and its possible development are discussed in detail. Topographic and geologic conditions are favorable for creation of a large reservoir with a dam of moderate height. Power possibilities are estimated at 29,000 kilowatts 100 percent of the time with full utilization of estimated discharge. Development of the site will depend on creation of new industries.

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45810. JOHNSON, HUGH ALBERT, 1913- . Industrialization and agriculture. Juneau, Sept. 30, 1953. 4 p. Mimeographed. Paper prepared for a symposium: Frontier development problems, Fourth Alaskan Science Conference.

Discussion of prospects of mining and industrial development in Alaska; probable advantages from it to agriculture; maximal area amenable to farming; government aid; probable agricultural specialties and their export. Agriculture, though not a major enterprise in Alaska and dependent upon other elements of the economy, has a greater potential than now realized.

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45811. JOHNSON, HUGH ALBERT, 1913-, and R. J. COFFMAN. Land occupancy, ownership and use on homesteads in the Kenai Peninsula, Alaska, 1955. Palmer, Alaska, Nov. 1956. 31 p. 3 illus., 6 text maps, 19 tables. (Alaska. Agricultural Experiment Station, Bulletin 21) ref.

Results of a survey in summer 1955 covering all homesteads on the western side of the Peninsula, west of Chugach National Forest and Fox River at head of Kachemak Bay. Climate, soils, and vegetation are reviewed, also history of settlement since World War II. Data are given on: occupancy, ownership, and

utilization of the land; types of farms; homestead incomes and expenses, families and houses. Fifty-nine percent of all entered tracts were unoccupied in 1955, 37 percent were rural residences, and only four percent were farms. A more intensive study of the Homer area 1915–1955 disclosed that slow homestead development is associated with a general lack of stable and permanent settlement. Recommendations are made for changes in agricultural settlement policies, laws, taxes, aid to farmers, etc.

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45812. JOHNSON, HUGH ALBERT, 1913—, and W. CALHOUN. Markets for the products of cropland in Alaska, progress report. Washington, D. C., U. S. Dept. of Agriculture and Alaska Agricultural Experiment Station, July 1950. 50 p. illus. tables, map, 17 refs.

Consecutive sections deal with current agricultural production in Alaska, its location, volume and types; markets: their location, size, capacity, etc.; marketing facilities; transportation; future markets and potential farming development. High costs of production and marketing, a restricted market and competition, or threat of competition, from outside markets are considered as factors limiting development.

\*\*Copy seen: CaMAI.\*\*

JOHNSON, HUGH ALBERT, 1913—, see Andrews, R. A., and H. A. Johnson. Farming in Alaska. 1956. No. 43657.

JOHNSON, HUGH ALBERT 1913—, see Wilson, J., and others. Frontier development problems . . . 1956. No. 48979.

45813. JOHNSON, MARTIN WIGGO, 1893. The plankton of the Beaufort and Chukchi Sea areas of the Arctic and its relation to the hydrography. [Montreal] July 1956. 32 p. 11 text maps, 15 tables. (Arctic Institute of North America. Technical paper, no. 1) 44 refs.

Results of two oceanographic surveys by the U. S. Navy icebreaker Burton Island in Aug. 1950 and Aug.—Sept. 1951, during which 106 stations were occupied for plankton samples in the region 70°-76° N. 125°-170° W. In 1953, samples were obtained at 30 stations in Amundsen Gulf and Prince of Wales Strait. Faunas are considered in two parts: copepods, which constitute the greater part of the plankton; and miscellaneous plankton. The various species,

their abundance and distribution, and the hydrographic implications are dis-Data are tabulated. cussed. bution of several copepod species indicates flow of Bering Sea and Strait water to about 76° N. and around Pt. Barrow to western Beaufort Sea, also flow of surface water from Arctic Basin to Beaufort Sea. Numerically, the most important copepods are Calanus finmarchicus, C. hyperboreus, Metridia longa, Microcalanus pygmaeus, Oithona spp., Oncaea spp., and Pseudocalanus minutus. Copy seen: CaMAI.

45814. JOHNSON, O. Low level inversions over a snow surface. Ralston, Alta., Aug. 30, 1956. 4 l. 3 tables. (Canada. Defence Research Board. Suffield Experimental Station. Technical paper no. 103; DRB Project no. D52-32-01-04.) 4 refs.

Vertical temperature profile measurements, extending up to 1,000 ft. above terrain, were made during the winter of 1945–46 in the Suffield area. An analysis is made of these profiles to determine the frequency of occurrence of low level inversions and their conditions of occurrence. Results show that over a snow surface inversions persisted during the day on 45 out of 85 days of observations, and that it should be possible to forecast their occurrence with some degree of confidence.

\*\*Copy seen: CaMAI.\*\*

JOHNSON, ROBERT E., see Sargent, F., and others. The physiological basis . . . constituents in survival rations, 2; the efficiency . . . moderate cold. 1955. No. 47799.

JOHNSTON, G. H., see Pihlainen, J. A., and others. Soils . . . Mackenzie River delta . . . 1956. No. 47353.

45815. JOHNSTON, H. FREEBORN. List of geomagnetic observatories and thesaurus of values. (Journal of geophysical research, June 1956. v. 61, no. 2, pt. 1, p. 273-82, 2 tables.)

Contains a list of 80 magnetic observatories with geographic coordinates (26 stations north of 50° N. lat.). Annual values of geomagnetic elements (declination, horizontal intensity, and vertical intensity) are tabulated for each station for years of record ranging from 1 to 14.

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45816. JOHNSTON, R. N., and G. A. HILLS. The need for rehabilitation of organic terrain in Ontario with special

reference to reforestation. (In: National Research Council of Canada. Associate Committee on Soil and Snow Mechanics. Proceedings of the Eastern Muskeg Research Meeting, Feb. 22, 1956. Ottawa, Oct. 1956. Technical memorandum, no. 42, p. 46-54, text map.)

One-third of Ontario is characterized by organic terrain: the Hudson-James Bay lowland, and the clay belt and till upland to the south of it. Forest and agricultural possibilities are discussed, also attempts (unsuccessful) at muskeg drainage, prospects (poor) of better conditions through geologic or climatic change or through removal of the peat. Fire is probably the best means of preventing spread of muskeg conditions, but more research is needed on its effects, also on characteristics of soils, climate, uses of peat, artificial drainage systems, etc.

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JOHNSTON, W. P., see Stefansson, V. Natural cold storage. 1956. No. 48185.

JOHNSTON, WILLIAM ALFRED, 1874-, see Cooke, H. C., and W. A. Johnston, Gold... Canada. 1932. No. 44452.

JONES, A. VALLANCE, see Hunten, D. M., and others. Auroral research . . . 1956. No. 45649.

JONES, AUSTIN EMERY, 1898—, see U. S. Geological Survey. Progress . . . Aleutian investigations, 1946–1951 . . . 1952. No. 48601.

45817. JONES, EDGAR T. Mackenzie River migration. (Canadian field-naturalist, July-Sept. 1956. v. 70, no. 3, p. 143.)

Contains observations made in Sept. 1954 during a 2200-mile trip by boat from Hay River on the south shore of Great Slave Lake, to Aklavik on the Mackenzie delta. Many migrating waterfowl (Canada geese, snow geese, whistling swans, etc.) use the Mackenzie as their highway south. Many rafts of greater scaup (50-350 birds) and old-squaw duck were observed at the west end of the Great Slave Lake. Copy seen: DA.

JONES, FLORENCE FREEMAN, see Jones, G. N., and F. F. Jones. A revision . . . Geranium . . . 1943. No. 45819.

45818. JONES, GEORGE NEVILLE, 1904 - New species of vascular plants from the Northwest coast. (Madroño, July 1941. v. 6, no. 3, p. 84–86.) Includes a description of Delphinium splendens, n. sp. native to Chilkat valley in Alaska. Copy seen: DA.

45819. JONES, GEORGE NEVILLE, 1904— , and F. F. JONES. A revision of the perennial species of Geranium of the United States and Canada. (Rhodora, Jan.–Feb. 1943. v. 45, no. 529–30, p. 5–26, 32–53.)

Contains a discussion of the genus, an analytical key to the species and annotated list of six with descriptions, critical notes and lists of localities, G. erianthum, with type locality: "in Kamtschatka et Amer. bor. et occidentali Nelson", is native to Alaska, the Aleutian Islands and Yukon Territory. The latter part of this paper (p. 32–53) does not contain arctic material.

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45820. JONES, GEORGE NEVILLE, 1904- . Sorbus andersoni, a new name for an Alaskan mountain-ash. (Rhodora, June 1945, v. 47, no. 558, p. 220.)

Sorbus andersoni n. nom. is proposed for the shrub described by the author as S. alaskana in his A synopsis of the North American species of Sorbus (No. 45821); it was collected by M. W. Gorman near Lake Iliamna in 1902. The original name was previously used for a fossil species by A. Hollick in 1930.

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45821. JONES, GEORGE NEVILLE, 1904 - A synopsis of the North American species of *Sorbus*. (Harvard University. Arnold Arboretum. Journal, Jan. 1939. v. 20, no. 1, p. 1-43, plates 226-27.)

Eleven species and two hybrids, are described with synonyms, critical notes and lists of specimens. Several of these oaks are recorded in the North; S. aucuparia (Labrador), S. alaskana n. sp. (Alaska), S. decora var. groenlandica n. comb. (Southern Greenland, Labrador), S. sitchensis (Alaska and Yukon) and S. sambucifolio (Kamchatka and Aleutian Islands). A general discussion of the genus and a key to species are provided.

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45822. JONES, PAUL R. Notes on some little known North American Syrphidae. (Entomological news, June 1907. v. 18, no. 6, p. 238–41.)

Contains an annotated list of 17 species with descriptive notes and distributional data. Chilosia occidentalis, Sphegnia in-

fuscata and Volucella evecta are recorded in Alaska. Copy seen: DA.

45823. JONES, R. J. Cobalt in Canada. Ottawa, Queen's Printer, 1954. viii, 96 p. illus., text maps, graphs, diagrs., 19 tables. (Canada. Dept. of Mines and Technical Surveys, Mines Branch, no. 847.) 119 refs.

Includes (p. 25–26) description of cobalt occurrence and production at the Eldorado mine at Port Radium on Great Bear Lake, and at Lynn Lake in northern Manitoba; also other small occurrences (p. 27, 30, 32): Quill Creek, Kluane Lake, Yukon; the B. M. group of claims on the east arm of Great Slave Lake, 80 mi. east of Yellowknife; François River on the north shore of Great Slave Lake; Mt. Wright, northern Quebec, near the southwest corner of Labrador. Recovery of cobalt from the nickel-copper-cobalt concentrate from Lynn Lake is briefly described (p. 45).

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**45824. JONES, WENDY H.** Arctic crossroads; Alaska in the air age. (Américas, June 1956. v. 8, no. 6, p. 30–33, illus.)

Popular comments on the impact of air travel and transport on Alaska life, some of the pioneer pilots, Alaska's strategic location, growing populations, radio and television as links with the rest of the world. *Copy seen:* DGS.

45825. JONSGÅRD, ÅGE. On the growth of the fin whale, Balaenoptera physalus, in different waters; preliminary report from the State Institute for Whaling Research. (Norsk hvalfangstidende, 1952, no. 2, p. 57–76, illus., table) 11 refs. Also pub. in Norwegian.

11 refs. Also pub. in Norwegian.
Account of investigation, including size measurement, condition of gonads and general biological data of 295 fin whales landed between May 1 and Sept. 15, 1951, the hunting area including waters between the Finnmark coast and Bjørnøya. Size and growth data are compared with those of antarctic and other waters. It is concluded that while in external characters (color, relative size and position of organs, etc.) there is no essential difference between northern and antarctic fin whales, growth differences are so manifest as to rule out the possibility of northern animals migrating to the Antarctic and vice versa.

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45826. JONSGÅRD, ÅGE. Production of oil and meat from North Atlantic fin whales, Balaenoptera physalus. (Norsk hvalfangst-tidende, Oct. 1956. Årg. 45, nr. 10, p. 541-50, tables.) Text in

Norwegian and English.

The survey was carried out at three shore stations on the Norwegian coast each year 1951-1954, and the material comprised 189 whales in all. Average production of meat and oil and production from individual whales, male and female, are tabulated. The material is too small for a more exhaustive analysis but tentative conclusions are offered: production of meat and oil shows large individual variations in animals of the same sex and length, caught at the same time in the season. The oil yield tends to increase in the course of the season but weight of meat does not. Females suckling young are not a profitable catch. Copy seen: DA.

45827. JÓNSSON, JÓN. Cod, Greenland stock; the age distribution of Icelandic trawler-caught cod on Store Hellefiske Bank in 1954. (International Council for the Exploration of the Sea. Annales biologiques 1954, pub. 1956. v. 11, p. 93, table.)

Data collected from catches over three areas of this bank located off western Greenland (approx. 67° N. 56° W.). A rise in the 1947 year-class was noted towards the north, as well as a paucity in the 1945 year-class. Copy seen: DI.

45828. JÓNSSON JÓN, and U. STEFÁNSSON. Síldarrannsóknir "Aegis" sumarið 1954. Herring investigations with the research-vessel "Aegir" in the summer 1954. Ásamt lýsingu á síldarleitartaekjunum, eftir Kristján Júlíusson [with description of the herring-finding equipment, by Kristján Júlíusson]. Reykjavík, 1955. 41 p. illus., 8 text charts, diagrs., graphs. (Reykjavík. Háskolí Islands. Atvinnudeild. Fiskdeild. Fjölrit fiskideildar, nr. 5) Text in Icelandic. Summary in English.

In June-Aug. 1954, investigations of herring distribution and hydrographic conditions were carried out by Iceland University Research Institute, Dept. of Fisheries, in Denmark Strait and Greenland Sea to Jan Mayen. The research vessel was equipped with echo-sounding equipment, described by K. Júliusson (p. 3-6), for detecting herring shoals. Hydrographic conditions are reported, compared with those of 1953, and related

to herring distribution. Herring concentrations increased north of 67° N. (most abundant 67°-68° N.) and off the northwest coast of Iceland near boundary of the East Greenland Current. They were observed everywhere between Langanes and Jan Mayen, particularly where temperature changes were greatest. Dominant year classes were 1937, 1938, and 1943.

\*\*Copy seen: DN-HO.

JÓNSSON, JÓN, see also International Commission for NW. Atlantic Fisheries. Annual proceedings . . . 1955–56. 1956. No. 45703.

JORDAL, BJARNE, see Christensen, P. E., and others. An epidemic of measles . . . 1951 . . . 1. 1952. No. 44357.

JORDAL, BJARNE, see also Christensen, P. E., and others. An epidemic of measles . . . 1951 . . . 2 . . . . 1953. No. 44358.

JORDAL, BJARNE, see also Christensen, P. E., and others. An epidemic of measles . . . 1951 . . . 3 . . . . 1953. No. 44359.

45829. JORDAN, DAVID STARR, 1851–1931, and C. H. GILBERT. Notes on the fishes of the Pacific coast of the United States. (U. S. National Museum. Proceedings, Apr. 1881. v. 4, p. 29–70.)

Contains a systematic annotated list of 271 species with scientific and common names and data on economic importance and geographic distribution. At least twelve species, native to Bering Sea, Aleutian waters and Gulf of Alaska, are included.

Copy seen: DLC.

45830. JORDT, H. J. The air temperature at the French ice-cap station in Greenland and the temperature in the free air. (International Union of Geodesy and Geophysics. Association of Meteorology. Proces-verbaux des séances. Mémoires et discussions, Brussels, 1951, pub. 1953. p. 186.)

Summary of paper presented at the Brussels meetings. Based on observations of Expéditions polaires françaises Greenland expedition, monthly mean temperatures were plotted for the Station Centrale level and for 600, 500, 400 and 300 mb. pressure levels, 1949–1951; also for the same period, monthly mean temperatures for the 700 mb. pressure level at Thule and Scoresbysund. Results indicate that subsidence has less importance than expected on temperature rise in winter, while advection has greater influence.

\*\*Copy seen: DWB.\*\*

45831. JOSEPH S. WARD & ASSOCIATES, Seattle, Vancouver, Honolulu. The Ward index of consumer prices in five Alaskan cities. Prepared for the Alaska Resource Development Board [Seattle?] Dec. 12, 1956. [66] p. text map, tables. Mimeographed.

Outline of scope and methods of the survey is followed by tabular data of late summer 1956 for Fairbanks, Anchorage, Juneau, Sitka, and Ketchikan. They show relative importance of foods (itemized), housing (including maintenance, furnishing, appliances, operations, etc.), apparel, transportation, medical, personal and recreation costs. A comparison is made between these five cities' retail prices and those of Seattle.

Copy seen: CaMAI.

JOSET, ALAIN, 1903–1951, see Martin, J., and A. Joset. Anisotropie . . . vitesse des ondes séismiques . . . 1949. No. 46641.

JOSET, ALAIN, 1903-1951, see also Martin, J., and others. Groenland, 1948-1952; gravimétrie . . . 1954. No. 46642.

JOSIAH MACY JR. FOUNDATION, see Conference on Cold Injury, 1955. Transactions . . . 1956. No. 44430.

JOUANIN, CHRISTIAN, see Berlioz, J., and C. Jouanin. Étude . . . collection d'oiseaux . . . Pribilof. 1951. No. 44000.

45832. JOURNAL OF GLACIOLOGY. Glaciology in the International Geophysical Year. (Journal of glaciology, Mar. 1956. v. 2, no. 19, p. 618.)

Note on the glaciological program for 1957–1958, particularly British plans for the Antarctic and sub-Antarctic: accumulation and ablation measurements will be carried out as well as investigations of past variations in annual accumulation, the physical behavior of ice, and the sub-Antarctic glaciers of South Georgia and Graham Land.

\*\*Copy seen: DGS.\*\*

JOUVET, M., see Benoit, O., and others. Augmentation . . . de la réponse électrocorticale . . . en hypothermie. 1956. No. 43963.

**45833.** JOWITT, S., and R. J. RAINBOTH. Radar altimeter activities for mapping purposes. (Canadian surveyor, Jan. 1956. v. 13, no. 1, p. 17–19.)

Procedures for radar altimeter mapping and the improvements in Canadian aeronautical charts as a result of these techniques are discussed. Improvements in the Devon East chart include approximate 1000 ft. contours and spot elevations spaced about 16 mi. apart. One note reading "permanent ice fields rising to about 3500 ft." has been replaced by a measured spot elevation of 6190 ft. The radar altimeter technique provides a scale drawing of the ground's profile directly below the flight path. Since 1948, more than 80,000 line miles of profile information have been obtained for areas in Canada totalling approximately one million sq. mi.

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JOY, E. F., see David, L. R. Thorium, a bibliography . . . 1953. No. 44553.

JUDE, JAMES R., see Otis, A. B., and others. Pulmonary gas exchange in hypothermia. 1956. No. 47214.

45834. JUHLE, R. WERNER, d. 1953, and H. W. COULTER. Mt. Spurr eruption, July 9, 1953. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 235.)

Notes eruption of a parasitic crater on south flank of Mt. Spurr, 80 mi. west of Anchorage (61°18′ N. 152°15′ W.). Dust fall extended east to within 30 mi. of Cordova. Areas to north, south and west were dust-free. Glaciers on crater were left largely intact. Eruption was accompanied by torrential rains causing floods in Chakachatna River basin.

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45835. JULIN, ERIK. Lycopodium inundatum återfunnen i Norrbotten. (Svensk botanisk tidskrift, Dec. 1956. bd. 50, hefte 4, p. 548–49.) 4 refs. Text in Swedish. Title tr.: Lycopodium inundatum refound in Norrbotten.

This club-moss was recorded from Luleå in 1915 and never encountered again in Norrbotten till a stand was found on Aug. 25, 1956, in a bog at Naartijärvi. A list of plants found in the same locality is added.

\*\*Copy seen:\* DSI.\*\*

JÚLÍUSSON, KRISTJÁN, see Jónsson, J., and U. Stefánsson. Síldarrannsóknir "Aegis" sumarid 1954. 1955. No. 45828.

45836. JUMIKIS, ALFREDS RICHARDS, 1907—. The method of solution of Ruckli's frost-penetration equation. (American Geophysical Union. Transactions, Apr. 1956. v. 37, no. 2, p. 181–84, diagr.) 2 refs.

Contains method for solving a non-

linear differential equation expressing the rate of frost penetration in soil. The method consists of the application and use of power series and the determination of the coefficients involved. Good agreement has been reported between observed and calculated values but the reports are too few to adopt the theory for all geographic, climatic, and soil conditions.

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45837. JUMIKIS, ALFREDS RICHARDS, 1907-. The soil freezing experiment. (National Research Council. Highway Research Board. Bulletin, 1956. no. 135, p. 150-65, illus., diagrs.,

graphs.) 12 refs.

"The fundamental concepts theories forming the basis of frost action research are reviewed with special reference to the upward migration of moisture. The value of laboratory studies is examined; suction measurements made during a representative freezing experiment fat Rutgers University, Jersey?] and the apparatus used are described; and the results are graphed. Suction values obtained analytically by means of the hydrodynamic and thermodynamic theories are compared with experimental values. Suggestions for future research are included."-SIPRE.

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JUMIKIS, ALFREDS RICHARDS, 1907-, see also Ruckli, R., and H. F. Winterkorn. Discussion of "Suction forces . . . freezing." 1955. No. 47696.

45838. JUNEAU, ALASKA. CHAMBER OF COMMERCE. Visit Juneau, capital of Alaska, by auto, by plane, by boat. Juneau, 1956? 10 p. illus.

Information for the tourist on the city's history, present living conditions, industry and employment, climate, fishing and hunting, scenery, buildings, and on its various institutions and facilities, etc.

Copy seen: CaMAI.

45839. JUNG, GLENN H. Energy transport by air and sea. [Washington, D. C.] 1956. iv, 19 p. diagrs., tables. (In: U. S. Office of Naval Operations. The dynamic North, v. 1, no. 14.) 47 refs.

Contains discussion of the latitudinal variation of the energy balance of the earth-sea-air system based on a survey of radiation studies. An annual radiation surplus results in regions equator-ward from about 38° N. lat., and an annual deficit poleward from this circle (for the Northern Hemisphere). The quantities of energy needed to be transported poleward to maintain radiation equilibrium are established for this hemisphere, and the processes effecting the energy transfer are reviewed. The surface effects of heat transport in modifying temperatures are discussed, and the need for increased data coverage geographically as well as in time is indicated. *Copy seen:* DLC.

JURCZYK, WITOLD, see Bogacki, B., and others. Badania doświadczalne nad . . . 1956. No. 44067.

JURCZYK, WITOLD, see also Stengert, K., and W. Jurczyk. Reakcja organizmu na zimno . . . 1955. No. 48195.

45840. JUSTIN-BESANÇON, L., and others. Réfrigération à 23.5; guérison. (Société médicale des hôpitaux de Paris. Bulletins et mémoires 1956. 72 année, no. 12–13, p. 368–76, illus., table.) 3 refs. Text in French. Other authors: H. Péquignot and J.-P. Etienne. Title tr.: Chill to 23.5°; recovery.

Case history of a man aged 49 brought to the hospital in an unconscious condition, with a rectal temperature of 23.5° C. A warming cradle was applied immediately and condition is recorded at short intervals for the first 12 hrs. and regularly during first week of recovery.

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45841. JUUTINEN, PAAVO. Zur Biologie und forstlichen Bedeutung der Fichtenböcke (*Tetropium* Kirby) in Finnland. Helsinki, 1955. 112 p., 15 diagrs., 3 tables. (Acta entomologica fennica, no. 11.) 137 refs. Text in German. Summary in Finnish. *Title tr.*: On the biology of *Tetropium* Kirby and its importance in forestry in Finland.

Study of this genus of wood-destroying beetle, two species of which, T. castaneum and T. fuscum, are distributed in Finland, including Lapland, and cause dry rot in fir (Abies) trees. Breeding habits, development and feeding of these cerambycids are discussed. The eggs are laid in the bast and pupae develop in the rind of the tree. The life cycle of T. is one year in southern Finland and two years in the North. Unfavorable climatic conditions, certain parasites of beetles (especially Helcon aequator), also woodpeckers and the resistance of the tree itself are factors regulating the T. population. In all, these two species are not especially important themselves in the development of dry rot, but many other wood-destroying insects (20 listed, p. 88) follow T. and attack the diseased tree. Healthy forest conditions and early elimination of infected trees are the best means of protecting fir against these parasites.

\*\*Copy seen: DA.\*\*

K. S., see Pakhtusov, P. K. Vtorafa ėkspedifsifa...v 1834 i 1835... 1844. No. 47231.

45842. KACHADOORIAN, REUBEN, 1921— . Engineering geology of the Katalla area, Alaska. Washington, D. C. 1956. 22 p. 6 maps (5 fold.), graph. (U. S. Geological Survey. Reports, open file series, no. 395.) 3 refs.

Examination was made in summer 1955 of the Katalla segment of a proposed highway from Mile 39 on Copper River Highway to Icy Bay on the Gulf of Alaska. The region lies on the Gulf, southeast of Cordova, at approx. 60° N. 144°-145° W., on the south flank of the Chugach Mts. Topography and vegetation are described. Exposed bedrock consists of pre-Tertiary metamorphic and associated intrusive rocks and Tertiary sedimentary rocks. Unconsolidated Quaternary rocks, also described with regard to road location, include glacial outwash and moraine near present glaciers, and non-glacial terrace, beach and alluvial fan deposits, meadows, swamps, alluvial sand, and talus. Areas of large landslides and snowslides are noted. As the region lies in a major seismic zone, man-made structures should be earthquake-resistant. Copy seen: DGS.

45843. KACHADOORIAN, REUBEN, 1921- . Engineering geology of the Nenana-Rex area, Alaska. Washington, D. C., 1956. 21 p. 2 maps (1 fold.), graph. Photostat. (U. S. Geological Survey. Reports, open file series, no. 368.) 4 refs.

Geologic mapping of this Tanana valley area (64°12′30″-64°34′25″ N. 148°55′-149°17′40″ W.) was carried out in Aug. 1954, with emphasis on factors relevant to construction of Fairbanks-McKinley Park highway. Topography, drainage, and vegetation are briefly described. Bedrock consists of Precambrian Birch Creek schist and Nenana gravel of Tertiary age; unconsolidated glacial and non-glacial Quaternary deposits mantle the valley. These ma-

terials are evaluated (favorably) as highway foundations. Design of structures should allow for possible icing at stream crossings, also earthquake hazard as the area lies in a major seismic zone.

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KACHIN, D. I., see Polutov, I. A., and others. Tralovyl promysel . . . 1956 No. 47395.

45844. KACHINSKIÍ, NIKODIM ANTONOVICH, 1894—. Pochva, ee svoīstva i zhizn'. Nauchno-populārnafā seriā. Moskva, Izd-vo Akademii nauk SSSR, 1956. 307 p. illus., tables, port., maps, diagr. Text in Russian. *Title tr.:* Soil, its properties and life. Popular science series. 2d ed.

Structural characteristics of the earth's surface are described for general readers; upper layers of the ground, and that sustaining vegetation are stressed. Principal soil types of the U. S. S. R. are characterized, including (p. 133–57) tundra, peat and podsolic soils.

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45845. KACHURIN, S. P. Lêssovidnye porody i prosadochnye formy rel'efa v raĭonakh kholodnogo klimata. (*In:* Voprosy geologii Azii, t. 2, 1955. p. 494–508, illus., tables, diagr.) 39 refs. Text in Russian. *Title tr.:* Loess deposits and sink forms of relief in regions of cold climate.

Various hypotheses on the origin of loess are reviewed, including loesses in the northern tundras, the Lena-Aldan, Yakutsk and the lower Irtysh regions. Age of the formation is estimated on the basis of geological structure and remains of prehistoric mammals, and deposits in different areas analyzed as ancient, prehistoric, or contemporary. Further study of such deposits is suggested with a view to their use for water retention, particularly in areas of sink holes and depressions.

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45846. KACHURIN, S. P. V. K. Ânovskiī. (Akademiâ nauk SSSR. Izvestiâ, seriâ geograficheskafâ, Mar.—Apr. 1956. no. 2, p. 167–68, port.) Text in Russian.

Obituary of Vladimir Konstantinovich Anovskil, chief of the Vorkuta Permafrost Scientific Research Station, who died in 1955. His investigations and publications on railroad construction in permafrost regions and his work as secretary, then head of the Engineering Sec-

tion of the V. A. Obruchev Permafrost Institute are briefly outlined.

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45847. KACHURIN, S. P. Vsegda-li termokarst îavlîaetsîa priznakom degradafsii mnogoletnel merzloty. (Akademiâ nauk SSSR. Institut merzlotovedeniâ. Materialy k osnovam ucheniâ o merzlykh zonakh zemnol kory, 1955. vyp. 2, p. 25–33, illus. table.) 11 refs. Text in Russian. *Title tr.:* Thermokarst is not always a sign of permafrost degradation.

The distribution of thermokarst as a phenomenon associated with the melting of fossil ice is discussed. The presence of thermokarst was observed not only along the southern limits of permafrost in Siberia but in the far North (Lena-Aldan, Yana-Indigirka regions). Alterations in heat exchange between air and ground due to human activities, fires, also variations in vegetation, can cause degradation of the upper permafrost strata and changes in the appearance of thermokarst.—From SIPRE.

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45848. KACHURINA, L. 1. Priemy uskoreniū rosta i razvitiū kustarnikov v usloviūkh Krainego Severa. (Moskva. Glavnyī botanicheskiī sad Akademii nauk. Būlleten', 1956. vyp. 25, p. 58–64, 4 tables.) Text in Russian. Title tr.: Methods of speeding the growth and development of shrubs under conditions prevailing in the far North.

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Contains results of a study carried out at the Polar-Alpine Botanical Garden at Kirovsk, Kola Peninsula. Mean monthly ground temperature is tabulated for the vear and for the vegetative season in hothouse and nursery; and data are shown (table 3) on the growth and development, in both places, of Berberis vulgaris, Caragana arborescens, Lonicera edulis, Rosa rugosa, etc., seedlings. Hothouse culture of decorative shrubs prior to planting them in the open was found to be an effective method of speeding their growth: they start to bloom early and continue to grow vigorously after transplanting even under prevailing northern conditions.

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45849. KAISER, T. R. Radio investigations of aurorae and related phenomena. (Journal of atmospheric and terrestrial physics. Special supplement no. 5: The airglow and the aurorae, edited by E. B. Armstrong and A. Dalmargo, London,

1956. p. 156-73, diagrs., graphs, map, table.) 38 refs.

Contains a general review of studies on the characteristics of auroral ionization obtained by meter-wavelength radio-echo techniques employed in Canada, Great Britain, Norway, Sweden, and the United Meter-wavelength studies are particularly adaptable to high latitudes and are usually conducted in the auroral and sub-auroral regions above 50° lat. An analysis of the overall results shows a close association between radio-echoes, visual auroras, magnetic activity and radio-star scintillations. Some suggestions are given for future research, particularly during the IGY.

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45850. KAISILA, JOUKO OLAVI. Coleophora tractella Zell. (Lep., Coleophoridae) todettu boreoalpiiniseksi lajiksi. (Suomen hyönteistieteellinen aikakauskirja, 1949. v. 15, no. 1, p. 42.) Text in Finnish. Summary in German. *Title tr.:* Coleophora tractella Zell. (Lep., Coleophoridae) as a boreo-alpine species.

Records find of this species on July 12, 1948, in the alpine region of Fjeldes Kuonjarvaarri in Enontekiö (ca. 69°06' N.), Finnish Lapland near the Norwegian border. It is the first record from northern Europe.

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45851. KAISILA, JOUKO OLAVI. Herpetologische Notizen II; ein nördlicher Fund von Rana arvalis Nilss. in Finland. (Suomalainen eläin- ja kasvitieteellinen seura Vanamo. Tiedonannot (Archivum), 1955. v. 9, Suppl., p. 88-91, illus., text map.) 6 refs. Text in German. Title tr.: Herpetological notes II; a northern locality of Rana arvalis in Finland.

Records find of this frog species in Ivalo, Inari district of Finnish Lapland in summer 1954, with notes on habitat; the northernmost locality of this species in Sweden (ca. 68°40′ N.) and probably the world.

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45852. KAISILA, JOUKO OLAVI. A revision of the pseudoscorpion fauna of eastern Fennoscandia. (Suomen hyönteistieteellinen aikakauskirja, 1949. v. 15, no. 2, p. 72–92, 4 illus., 13 text maps.) 30 refs.

Contains historical notes, a discussion of Finnish species and an annotated list of 17 mostly limited to the southernmost parts of the country, but two from the north: Chelifer cancroides (Sodankyla, Kemi region of Finnish Lapland also Murmansk area of Kola Peninsula) and Chernes cimicoides (Pello, ca. 66°13' N.). Observations are added on phoresy and phagophily in false scorpions in Finland: they have seldom been observed clinging to moths, in most cases the dipters act as "a means of conveyance;" they have been found in the nests of social insects (quite often in the ant-hills), birds (50 percent in sparrow nests) and small mammals Copy seen: DLC. (very rare).

45853. KAISILA, JOUKO OLAVI. Über die vermuteten Bastarde zwischen Colias hecla sulitelma Aur. and C. nastes werdandi Zett.; Lep. Pieridae. (Suomen hvönteistieteellinen aikakauskirja, 1950. v. 16, no. 3, p. 112-21, 2 illus.) 22 refs. Text in German. Title tr.: On the supposed hybrid between Colias hecla sulitelma Aur. and C. nastes werdandi Zett.; Lep. Pieridae.

Contains description and discussion of an apparently intermediate butterfly form C. nastes werdandi f. christiernssoni, captured on several occasions in the Kilpisjärvi alpine region of Finnish Lapland, where the supposed parent species are common. All attempts to solve this problem by crossing and rearing in lab-Copy seen: DLC. oratory failed.

45854. KAJANNE, PAAVO. Investigations on the fatty acids of pine wood and tall oil, particularly considering the isomerizing effect of saponification methods, autoxidation and the sulphate cooking process. Helsinki, 1953. 82 p. 21 diagrs., 16 tables. (Suomalainen tiedeakatemia. Toimituksia, Saria A-II.

Chemica, no. 50.) 208 refs.

The two subspecies of Pinus sylvestris, important in the sulphate pulp industry of Finland and Scandinavia, are the predominant pines in north and south Finland. The primary byproduct of the industry, known as tall (pine) oil, is discarded in substantial amount because of unsatisfactory economic conditions with respect to its refining and marketing. Earlier writings on the oil are reviewed and research reported.

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KAJIKURI, H., see Riberi, A., and others. Ventricular fibrillation . . . hypothermic state, 3 . . . management . . . 1956. No. 47574.

KAJIKURI, H., see also Rodriguez, R. W., and others. Hypothermia . . . complications . . . coptrol. 1956. No. 47629.

KAJIKURI, H., see also Shumacker, H. B., and others. Ventricular fibrillation . . . hypothermic state, 4 . . . role . . innervation. 1956. No. 47981.

45855. KAKUWA, ZENZO, and others. Report on whale marking in the waters off Sanriku-Hokkaido and the North Pacific Ocean, 1953, with the results of capture of marked whales. Tokyo, 1953. 30 p. illus., tables, maps. (Japan. Fisheries Agency. Report on whale marking in Japan, no. 5.) Other authors: S. Watase and M. Akioka.

Operations in two regions are reported: (1) an area extending some thousand miles east of the northern half of Japan, with information on distribution of observed animals, marking, weather and oceanographic conditions, and distribution of whales, etc.; (2) a triangular area with the base east of the Kuril Islands and southern Kamchatka and the apex east of Amchitka in the Aleutians. This part deals with marking activities in the past, present survey, distribution of whales over the area studied, present marking activities, oceanographic conditions, returns of tags; movements of the whales studied. Copy seen: DI.

KALAJA, PENTTI, see Geografiska Sällskapet i Finland. Suomen maantieteen käsikirja. 1951. No. 45065.

45856. KALASHNIKOV, A. G. Issledovanifa sovetskikh uchenykh v mezhdunarodnom geofizieheskom (Priroda, May 1956, no. 5, p. 27-34, 3 text maps.) 6 refs. Text in Russian. Title tr: Soviet scientists' investigations in the International Geophysical Year.

Summary of report by the Soviet scientific delegation in Brussels to the Committee for the organization of the IGY. Planned scientific investigations are stated in meteorology, aurora and meteorites, ionosphere and atmospheric disturbances, cosmic rays, geo-astronomical and geodetic problems, oceanography and glaciology. IGY stations in the U.S.S. R. are mapped with indication of work at each. The importance of meteorological observations in arctic regions for the study of earth's atmosphere and climate is stressed and discussed. Copy seen: DLC.

KALASHNIKOV, A. G. O magnitnykh a geomagnitnykh políusakh zemli. (Geografifa v shkole, Nov.-Dec.

1956. god 19, no. 6, p. 64.) Text in Russian. *Title tr:* The earth's magnetic and geomagnetic poles.

Popular discussion with reference to observations planned for the IGY.

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45858. KALASHNIKOV, V. P. K voprosu o sinopticheskoI kharakteristike Vostochno-Sibirskogo i Chukotskogo morel v navigatsionnyI period. (In: Khromov, S. P. Sinopticheskie professy Dal'nego Vostoka, 1940, p. 152–78, 2 tables, 21 maps) 13 refs. Text in Russian. Title tr: Problems concerning the synoptic characteristics of the East Siberian and Chukchi Seas during the navigation period.

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Contains analysis of a set of synoptic maps prepared by the TSentral'nyl institut pogody, the icebreaker Krasin, five arctic meteorological stations, and by observation posts on Vrangel Island. The origin of air masses, mechanism of atmospheric circulation, determination of character and position of the fronts affecting the weather in regions of the

of character and position of the fronts affecting the weather in regions of the East-Siberian and Chukchi Seas are emphasized. Analysis of the charts yields three types of synoptic processes. The first type is characterized by a long continued (sometimes ten days) effect of arctic air in the region of these seas moving along the southern periphery of the anti-cyclone. The second type is characterized by a basic process of transformation of air masses from the Arctic Basin into polar air above the northeastern Asiatic continent (Chukchi Sea, Bering Strait and Alaska). The third type occurs under the action of warm and

KÁLDOR, GYÖRGY, see Harkányi, I., and others. Die experimentelle Entblutung des Herzens . . . 1956. No. 45440.

cold air masses changing frequently.

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45859. KALELA, AARNO. Stellaria hebecalyx Fenzl, ein vernachlässigter Vertreter des sibirischen Taigaelementes in Fennoskandien. (Suomalainen eläinja kasvitieteellinen seura Vanamo. Tiedonannot (Archivum), 1955. v. 9, suppl., p. 92–112, 10 illus., 2 text maps.) 24 refs. Text in German. Title tr: Stellaria hebecalyx Fenzl, a neglected representative of the Siberian taiga element in Fennoscandia.

Contains notes on the history, morphology, systematics and characteristics of this species, description of

S. graminea f. lasiosepala n. f., collected in Norrbotten and Torne Lappmark, Sweden, and Troms and Finnmark, Norway. The species is discussed as a typical taiga plant, occurring in Arkhangel'sk province, Kola Peninsula and in the Lena River region of Siberia.

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KALESNIK, STANISLAV VIKENT'E-VICH, see Obruchev, S. V. Spravochnik puteshestvennika . . . 1949-50. No. 47123.

45860. KALINKO, M. K. Ob istochnikakh terrigennogo materiala v permskil i triasovyl periody na severe srednel Sibiri. (Akademia nauk SSSR. Doklady, May 1, 1956. v. 108, no. 1, p. 131-34, text map.) 3 refs. Text in Russian. Title tr.: Sources of terrigenous material during the Permian and Triassic periods in the northern section of central Siberia.

Contains discussion of Anabar and Severnaya Zemlya anticlines and Taymyr syncline which are considered as the source of terrigenous material during Permian and Triassic time. It is possible that these anticlines spread northward to the present Laptev Sea.

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45861. KALITIN, NIKOLAĬ NIKO-LAEVICH, 1884–1949. What is to be expected from an actinometric program in the Arctic. Translated from Arctica, 1934, no. 2, p. 25–37. Ottawa, Aug. 1956. 11 l. diagrs. tables. (Canada. Defence Research Board. Directorate of Scientific Information Service. T 220 R) Translation by E. R. Hope of No. 8344 of Arctic Bibliography.

Expanded program of radiation measurements in the Arctic is urged. The Arctic, theoretically, receives more solar heating than any other region of the globe, at a certain season. To this time (1934), however, only one series exists of uninterrupted observations throughout an entire year in the arctic region, viz. Westman's observations in Spitsbergen. Some of the problems involved in determining the separate components of incoming radiation as well as the outgoing radiation are discussed.

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45862. KALLAS, HILLAR. The border village of Salla In the Finnish Arctic. (Norseman, Mar.-Apr. 1956. v. 14, no. 2, p. 85-88.)

Popular account of the construction

program in the region around Salla (formerly Kursu) on the Russian border (approx. 66°32′ N. 29° E.) and resettlement of 5,000 refugees from eastern Salla, now part of the U. S. S. R. Author visited a mobile pioneer unit building roads, felling trees, and draining bogland for farms. Under the peace treaty, Finland was required to build a railroad west from Salla to join the Finnish rail network, thereby linking Leningrad and other Russian bases to the ice-free Norwegian port of Narvik. Strategic importance of the Salla region, "the waist of Finland," is stressed.

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KAMEYAMA, SHIGENORI, see Matsuda, K., and others. Recovery of membrane potential . . . 1956. No. 46659.

45863. KAMPMANN, PER, 1892—. Greenland's lead mountain. (American-Scandinavia review, Mar. 1956. v. 44. no. 1, p. 32–37, 5 illus.) Reprinted from

Danish Foreign Office journal.

Popular account of lead-zinc discovery at Mesters Vig, northeast Greenland (72°09' N. 23°45' W.), noting development difficulties due to severe climate and isolated location. Major investigations of the galena and sphalerite deposits be-Village, heating plant, gan in 1952. waterworks, hospital, road, and air strip were constructed. Labor force has ex-Exploratory drilling has ceeded 150. been concentrated on the mountain Blyklippen, in which mills and flotation plant will be installed for protection against the cold. Mining and extraction will start in spring 1956. About 20,000 tons of concentrates will be shipped each season.

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45864. KAMRASS, MURRAY. Pneumatic buildings. (Scientific American, June 1956. v. 194, no. 6, p. 131–38,

illus., diagrs.)

Contains description of structures supported only by air pressure slightly above that outside. Developed after World War II, they are used primarily to house radar stations, including those in arctic and subarctic Canada and Alaska. Structures are large enough to cover huge radar antenna, light enough to be flown to remote stations, transparent to radio signals, and sturdy enough to withstand hurricane winds and weather extremes from arctic to tropics. Construction principles, analysis of stresses, and possible future uses of such buildings are discussed. Copy seen: DGS. 45865. KANAEV, N. P., and G. M. VASIL'EV. O roli russkol literatury v razvitii fikutskol literatury. (In: Akademifa nauk SSSR. fakutskil filial. Institut fazyka, literatury i istorii. Vedushehafa rol' russkogo naroda . . . , 1955. p. 244-63.) 2 refs. Text in Russian. Titte tr: The role of Russian literature in the development of Yakut literature.

Discusses the influence of 19th century Russian writers (political exiles), classical and modern authors, especially Maxim Gorki, upon Yakut literature. Yakut authors, whose writings follow this trend, are enumerated and their work discussed.

Copy seen: DLC.

45866. KANAKI, VASILIĬ GAVRILO-VICH, 1910-, and V. E. BLAGODA-ROV. Aerological observations. Washington, D. C., 1956. 15 p. diagr., illus, tables. (In: Somov, M. M. Observational data... drifting station 1950-1951, pt. 9; translated by David Kraus.)

Upper air observations were made from April 15 to Oct. 19, 1950. Radiosondes were released twice daily until Sept. 1, and once each day thereafter. Upper wind information was obtained from observation of the radiosonde balloons by the single- or double-theodolite method. All data are tabulated (in appendix p. 231-495 reproduced from Russian edition) including time of release, coordinate, cloud cover, pressure, temperature, vertical temperature gradient, relative and specific humidity, and wind speed and direction. Copy seen: CaMAI.

45867. KANAKI, VASILIĬ GAVRILO-VICH, 1910- Pol@rnym dnem i pol@rnoI noch'@. (Georgrafi@ v shkole, July-Aug. 1956, no. 4, p. 6-15, illus.) Text in Russian. *Title tr:* Polar day

and polar night.

Sketches from a year's (April 1954–1955) work on drifting station "North Pole-3," by its aerologist: flight over the Arctic Basin, setting up the eamp, daily work schedule, air-lift, winter ice pressure and cracking, effects of the 172-day dark period, polar spring, evacuation of the station.

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KANE, R. P., see Sarabhai, V., and R. P. Kane. Effects at Godhavn . . . cosmic rays. 1953. No. 47797.

45868. KANERVA, NIILO. Mitteilungen über die Coleophoriden (Lep.) Finnlands, I–II. (Suomen hyönteistieteellinen aikakauskirja, 1941. v. 7, no. 2, p. 117-27, 5 illus.) 10 refs. Text in German. *Title tr.:* Notes on the Coleophoridae (Lep.) of Finland, I-II.

Contains in pt. I a revision of eight Coleophora type species described by Tengström in 1848 (No. 17517 of Arctic Bibliography); followed by an annotated list of 30 species new to the lepidopterous fauna of Finland, of which five are new to science. C. idaeella, C. obscuripalpella of (Muonio) and C. virgaureae n. sp. (Lapland) are included. Copy seen: DLC.

45869. KANERVO, ERKKI. Die Gattung Melanostoma Schin. (Dipt., Syrphidae) und ihre finnischen Vertreter. (Suomen hyönteistieteellinen aikakauskirja, 1938. v. 4, no. 2, p. 98–105.) 10 refs. Text in German. Title tr.: The genus Melanostoma Schin. (Dipt., Syrphidae) and its Finnish representatives.

Contains a discussion of the genus, keys to the genera and Finnish species followed by critical notes and distributional data on five species and two varieties. Among them are: M. dubium, M. mellinum (var. obscuripes and melanathus) and M. scalare native to Kuusamo, Finnish and Russian Lapland and Solovetskiye Islands.

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KANERVO, ERKKI, see also Geografiska Sällskapet i Finland. Suomen maantieteen käsikirja. 1951. No. 45065.

45870. KANGAS, MAUNO ESKO. Die finnischen Euplectus-Arten; Col., Pselaphidae. (Suomen hyönteistieteellinen aikakauskirja, 1951. v. 17, no. 4, p. 136–48, 5 illus.) 15 refs. Text in German. Title tr.: Finnish Euplectus species; Col., Pselaphidae.

Contains discussion of the genus, a key and descriptions of ten species. E. decipiens (Rovaniemi) E. signatus (Inari Lappmark), and E. falsus sensu mihi (Utsjoki, Inari Lappmark), are included.

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45871. KANGAS, MAUNO ESKO. Forstentomologische Studien an der Espe. (Suomen hyönteistieteellinen aikakauskirja, 1942. v. 8, no. 1, p. 49–71, 11 illus.) 14 refs. Text in German. *Title tr.*: Forest entomological studies of the aspen.

Reports results of an investigation of pests (chiefly beetles) causing dry rot in aspen species; it was carried out in Finland 1938-40, partly in the northern region. The 12 more important pests are listed, and the damage done by them or their

larvae is evaluated. Xylotrechus rusticus and Cryphalus bispinulus were found (fig. 8 & 9) on diseased aspens in the Rovaniemi region (66°32′ N. 25°53′ E.) in northern Ostrobottnia.

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45872. KANGAS, MAUNO ESKO. Forstentomologische Studien an einigen Laubhölzern. (Suomen hyönteistieteellinen aikakauskirja, 1942. v. 8, no. 2, p. 142–63, 8 illus.) 14 refs. Text in German. Title tr: Forest entomological studies of some deciduous trees.

Contains a study of pests causing dry rot in ash, alder, willow, birch, etc., in Finland. The investigation includes the region around Rovaniemi (66°32′ N. 25°53′ E.) where three species of beetles, Cryptorrhynchidius lapathi, Saperda scalaris and Cossus cossus, have been found living on dying willow trees (figs. 4, 7, 8). The most injurious is C. lapathi which opens the way for other pests; C. coccus plays only a secondary role. Data on the biology of seven species of wood-boring bettles are added.

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45873. KANGAS, MAUNO ESKO. Revision der finnischen Arten der Gattung Oligota Mann.; Col., Staphylinidae. (Suomen hyönteistieteellinen aikakauskirja, 1938. v. 4, no. 4, p. 201-212, 4 illus.) 10 refs. Text in German. Title tr: Revision of the Finnish species of the genus Oligota Mann.; Col., Staphylinidae. Contains a key to the northern species, and descriptions and critical notes on six. O. intermedia n. sp. native to Kuusamo and Finnish Lapland and O. pusillima from Salla, in Kuusamo, are included. Copy seen: DLC.

45874. KANGAS, MAUNO ESKO. Über die Gattung Abia Leach (Hym., Tenthredinidae) im Lichte ihrer europäischen Arten. (Suomen hyönteistieteelinen aikakauskirja, 1946. v. 12, no. 3, p. 77–122, 12 illus., 2 text maps.) 30 refs. Text in German. Title tr: On the genus Abia Leach (Hym., Tenthredinidae) in the light of its European species.

Contains a critical comparative study of the saw-fly genera Abia and Zaraea, with data on their morphology and taxonomy, discussion of critical species, a key and descriptions of six, of which two are new. Among them are Zaraea (s. str.) fasciata (Kuusamo region, Finnish and

Russian Lapland) and Abia (Aenoabia) antennata n. sp., collected in Kuusamo. Copy seen: DLC.

45875. KANGAS, MAUNO ESKO. Zur Biologie und Verbreitung der Pissodes-Arten (Col., Curculionidae) Finnlands. (Suomen hyönteistieteellinen aikakauskirja, 1938. v. 4, no. 1, p. 1–20, 5 illus.; no. 2, p. 73–98, 4 illus.) 37 refs. Text in German. Title tr: A contribution to the biology of Pissodes species (Col. Curculionidae) of Finland.

Contains biological data on six species of the genus Pissodes, important pests of fir trees, with graphic and tabular analyses. The kind and extent their damage to forests is discussed, with notes on their distribution. All species occur in the Kuusamo region and Finnish Lapland.

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45876. KANGAS, MAUNO ESKO. Zur Biologie von Trypophloeus alni Lindem.; Col., Scolytidae. (Suomen hyönteistieteellinen aikakauskirja, 1940, v. 6, no. 3, p. 41–50, 7 illus.) 4 refs. Text in German. Title tr: A contribution to the biology of Trypophloeus alni Lindem.; Col., Scolytidae.

Contains an analysis of the injurious activity of this wood-infesting pest, causing dry rot in alder, Alnus incana. Data on its biology are given, based on observations made in 1939-40 in the vicinity of Rovaniemi (66°32′ N.).

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45877. KANGAS, MAUNO ESKO. Zwei neue hochnordische Bledius-Arten (Col., Staphylinidae) aus Finnland. (Suomen hyönteistieteellinen aikakauskirja, 1937. v. 3, no. 4, pl. 185–92, plate.) Text in German. Title tr: Two new high northern Bledius species (Col., Staphylinidae) from Finland.

Descriptions of Bledius (Blediodes) kutsae n. sp. from Kutsajoki, Salla in Kuusamo and Kanin Peninsula, and B. (Blediodes) fennicus n. sp. collected in Utsjoki in Inari Lappmark and the Petsamo region. These are compared with other rare beetles from the areas: B. bernhaueri on Kanin Peninsula, B. poppiusi in Salla and B. lativentris at Abisko, in Swedish Lapland.

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45878. KANGAS, YRJÖ. Revision der finnischen Arten der Gattung Xyletinus Latr. (Suomalainen eläin- ja kasvitieteellinen seura Vanamo. Tiedonannot (Archivum), 1955. v. 9, suppl., p. 115-30, 7 illus., 6 text maps.) 19 refs. Text in German. *Title tr.*: A revision of Finnish species of the genus *Xyletinus* Latr.

Contains notes on material, tabulated characteristics of 12 species investigated, and distributional data on six of the beetles (text maps and lists of localities). X. hanseni, recorded in the Kuusamo region and Kemi Lapland, is included.

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45879. KANGAS, YRJÖ. Über das finnische Vorkommen des auffallenden Einwandererkäfers Lithocharis nigriceps Kr.; Col., Staphylinidae. (Suomen hyönteistieteellinen aikakauskirja, 1953. v. 19, no. 2, p. 71–83, 4 illus., 6 text maps) 12 refs. Text in German. Title tr.: On the Finnish occurrence of a striking immigrant beetle Lithocharis nigriceps Kr.; Col., Staphylinidae.

Contains data on the distribution and migration of this beetle, described first from Ceylon and common in India, southern China and Japan. Reported in Europe in 1944, it spread quickly throughout the continent. In Finland it was first reported in 1951, but some specimens were found in herbaria, collected in 1943. Presence of two species of Lithocharis is revealed: ochracea distributed in southern and central Finland up to 63° N., and nigriceps which came to southern Finland in 1938 and spread rapidly northward (four belts, maps 2-5). In 1951 it was recorded near Nordreisa in Troms fylke, approx. 69°30' N. Its migration routes are discussed, also the question of whether it is permanently established in arctic Scandinavia or only a chance visitor. Copy seen: DLC.

45880. KANNISTO, ARTTURI (JU-HA), 1874–1943. Wogulische Volksdichtung; bearbeitet und herausgegeben von Matti Liimola. Bd. 1: Texte mythischen Inhalts; Bd. 2: Kriegs- und Heldensagen. Helsinki, 1951, 1955. 2 v.: xlii, 483 p.; vi, 831 p. port., illus., map. (Suomalaisugrilaisen seura. Toimituksia 101, 109). Text in German. Title tr.: Vogul folklore; revised and edited by Matti Liimola. v. 1, texts of a mythical character; v. 2, tales of war and heroes.

Contains texts (in transliteration and German translation) of 136 myths, magic songs, prayers, etc., and 39 epic legends collected by Kannisto in 1901–1906 in the Vogul country along the left tributaries (Loz'va, Pelym, Tavda, Konda, Severnaya Sos'va) of the Tobol and lower Ob'

Rivers. The introduction by Liimola describes Kannisto's extensive work on the Vogul language and dialects, and gives an account of his travels and studies, the difficulties encountered in winning confidence and cooperation among the Voguls, data on the narrators, etc. Appended are commentaries on content of the texts, with names of narrators, linguistic parallels, and intonation curves.

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KANNISTO, ARTTURI (JUHA), 1874–1943, see also Steinitz, W. Geschichte des wogulischen Vokalismus. 1955. No. 48192.

45881. KANWISHER, JOHN WILLIS, 1924— . How cold is a whale's tail? (Oceanus, Autumn and Winter 1956–57. v. 5, no. 1–2, p. 13–18, 2 illus., 2 diagrs.)

Popular account of author's investigations to determine regulation of temperature in whales. The blubber layer acts as effective barrier to heat loss over most of body, but flippers and tail are relatively uninsulated. Ways by which circulatory system conserves and discards heat are discussed. Author participated in whale hunt off the Norwegian coast to carry out tests on freshly-killed whales. *Copy seen:* DGS.

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KANWISHER, JOHN WILLIS, 1924-, see also Scholander, P. F., and others. Gases in icebergs. 1956. No. 47843.

45882. KAO, FREDERICK FENG-TIEN, 1919- . The gas transport system in hypothermia. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 58-60, illus.) 2 refs.

An analysis of several perimeters in hypothermal gas transport of dogs. Conditions with, and without shivering are considered. Ventilatory equivalent, circulation equivalent for O<sub>2</sub>, etc., are discussed.

\*\*Copy seen: DLC.\*\*

45883. KAO, FREDERICK FENG-TIEN, 1919-, and B. SCHLIG. Impairment of gas transport and gas exchange in dogs during acute hypothermia. (Journal of applied physiology, Nov. 1956. v. 9, no. 3, p. 387-94, illus., table.) 21 refs.

Account of respiratory and circulatory responses in anesthetized, hypothermic dogs, and also of core temperatures, total ventilation, cardiac output, arterial-CO<sub>2</sub> tension and pH. Two types of response

were observed in the animals: cooling with, and without shivering, and these perimeters were studied in both groups.

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4584. KAPILEVICH, N. B. Shnekorotornyi snegoochistitel' na avtomobile GAZ-63. (Avtomobil'nye dorogi, Nov. 1956. god 19, no. 11 (169), p. 25, illus.) Text in Russian. *Title tr:* Screwrotary snow remover on a GAZ-63 truck.

A portable snow remover, designed and built by the Gorky Automobile Works is described. It can be attached easily to the truck's bumper and driven by a shaft connected to the main engine through the gear box. Right and left hand screws, driven by the same shaft, collect and direct snow to the center of the scoop and to the suction of a large propeller wheel, which forces the snow aside. Snow one meter deep can be thrown 25-30 m. off the road. Average production of this arrangement is about 650 cu. m./ hr. Copy seen: DLC.

KAPITSA, PETR LEONIDOVICH, 1894– , see Chentsov, R. A. Izuchenie fiziki nizkikh temperatur. 1956. No. 44325.

4585. KAPLAN, JOSEPH, 1902—. The United States arctic program for the International Geophysical Year. (National Research Council. News report, Sept.—Oct. 1956. v. 6, no. 5, p. 73—76.)

Outlines work in Alaska at two glaciological stations (quantities and mechanics of snow and ice), and existing meteorological stations (synoptic data), also oceanographic studies to be made in the Gulf of Alaska, at Point Barrow, and Barter Island. In Canada: continued joint operation of meteorological and ionospheric stations, cooperative rocket launchings from Churchill and Frobisher Bay; also two drifting stations to be established on the ice pack in 1957 for oceanographic, glaciological, meteorological, auroral, ionospheric, and gravity observations. Research problems are described in turn, and specific arctic localities (North America and Europe) for their study are noted.

Copy seen: DGS.

45886. KAPLAN, JOSEPH, 1902– United States programme for the International Geophysical Year. (Nature, Sept. 29, 1956. v. 178, no. 4535, p. 665–67.)

A general review is presented of the

major topics of study including the satellite program. The third international effort of this nature was planned for 1957-58 to correspond with an expected period of maximum solar activity. The major regions of activity will center in the Arctic, the Antarctic, the Equatorial Pacific, and the continental U. S.

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45887. KAPLAN, SAMUEL, 1922—, and others. Oxygen availability to the brain during inflow occlusion of the heart in normothermia and hypothermia. (Journal of thoracic surgery, Nov. 1956. v. 32, no. 5, p. 576–82, illus.) 6 refs. Other authors: E. C. Matthews, L. Schwab, and L. C. Clark.

Account of different occlusion experiments with dogs, including complete circulatory occlusion in hypothermic animals. In that case, oxygen availability to the brain fell rapidly to an average level of 86 percent below the controls; the availability curve in this group closely resembles that of breathing of less than 4.91 percent oxygen.

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45888. KAPLIN, ALEKSEI ALEK-SEEVICH. Vo dvorîse pushniny. (Okhota i okhotnich'e khozısıstvo. Oct. 1956, no. 10, p. 22, illus.) Text in Russian. Title tr.: In the Fur-palace.

Report on the 27th International Fur Auction in Leningrad (in 1956?). Over four million skins of 45 species of furbearers were offered by the U. S. S. R.; 8,840 white (arctic) fox skins, 12,200 mink, over 14 thousand sable, over 800 thousand muskrat and about 1.3 million squirrel, were assembled from various areas, including the Pechora, Ob', Yenisey and Lena Rivers basins. Sale varied from 98 percent (squirrel) to 30 (white polecat) of the skins offered. The poor quality of the Soviet muskrat skins is noted.

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45889. KAPLIN, ALEKSEĬ ALEK-SEEVICH. Za vysokoe kachestvo sovetskoĭ pushniny. (Rafsionalizatšifa okhotnich'ego promysla, 1956. vyp. 5, p. 86-97, tables.) 3 refs. Text in Russian. Title tr.: Improve the quality of the Soviet furs.

In 1953, Soviet hunters delivered 130 million pelts to state organizations, as compared with yields of eleven million in the United States, seven million in Canada. Soviet furs are noted for their high quality, but the standard ought to be

raised by improvement in skinning and processing. Primary fur preparation and its improvement in various parts of the U. S. S. R., including Yakutia, Kamchatka, and the Pechora basin are discussed. The season for muskrat hunting is considered and data are given (p. 93) on the annual catch: it rose from 3,800 pelts in 1935 to 3,167,000 in 1952.

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KAPLIN, P. A., see Ionin, A. S., and P. A.
Kaplin. Osobennosti formirovania morskikh terras. 1956. No. 45713.

KAPOOR, SITARAM, see Reissmann, K. R., and S. Kapoor. Dynamics of hypothermic heart muscle . . . 1956. No. 47553.

45890. KARABAN, G. L., and K. M. POLTEV. Snegouborochnye mashiny. Moskva, Izd-vo Ministerstva kommunal'nogo khozfafstva RSFSR, 1955. 136 p. illus., table, graphs, diagrs. 22 refs. Text in Russian. Title tr: Snowremoval equipment.

Equipment now in use in the U. S. S. R. for the removal, automatic loading, melting, and transporting of snow from roads and streets is described in detail. Construction and performance data of plow and rotary equipment are given. Changes in the physical and mechanical properties of a snow cover under the action of gravity, wind, and solar radiation are itemized and tabulated.—From SIPRE.

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KARAKOTŠKIĬ, E. D., see Vil'chevskiĬ, D. P., and others. Opyt raboty . . . seInera "Kamchatskiĭ." 1956. No. 48753.

45891. KARAL'KIN, P. I. Ob arkhive G. L. Spasskogo. (Sovetskafa ėtnografifa, 1956. no. 4, p. 159–62) 9 refs. Text in Russian. *Title tr:* On the archives of G. I. Spasskil.

Describes manuscripts of this noted Russian historian, found by the author in 1954 in the Krasnoyarsk regional archives (kraevof arkhiv). The collection adds to knowledge of his life and work and includes important source material on the history, ethnography and languages of Siberia. Several dictionaries, some of the Ostyak and Tungus languages and dialects, are among the mss. F. I. Langans' ms. "Collection of information on the origin and descent of various foreign tribes inhabiting the Irkutsk District" was found among

Spasskii's papers; it has 13 chapters on peoples of Siberia: Tungus, Lamuts, Yukaghirs, Koryaks, Yakuts, etc.; a few chapters of it were published by Spasskii, cf. No. 35790. *Copy seen*: DLC.

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45892. KARANTONIS, F. É., and others. Ryby srednego techenii r. Leny. (Akademia nauk SSSR. lAkutski! filial, Yakutsk. Institut biologii, Trudy, 1956. vyp. 2, p. 3–144, illus. tables.) 55 refs. Text in Russian. Other authors: F. N. Kirillov and F. B. Mukhomediarov. Title tr: The fishes of the middle course of the Lena River.

A study of the river, the adjacent shore-lakes and some tributaries. Lena basin is characterized: its water and ice conditions; its various sections and course, its left tributary, the Vilyuy, and Lake Beloye. A general description is given of the fishes of these waters, their taxonomy, distribution and zoogeographic origin. The main part of the study (p. 23-110) deals with the morphology and biology of the commercial species, their occurrence and distribution, movements; propagation and development, food, catches, size and weight of fishes caught, economic value, etc. Finally (p. 110-30) the main fishing centers of the middle course of the river are examined: their location, kinds of fishes caught, etc.; general characteristics of the fisheries, reserves, economic value, etc. Appended is account of the benthos (108 forms) of the waters studied. The field work was sponsored by the Yakutsk Branch of the Academy of Sciences, and carried out during the summers 1948-1950, and the whole year of 1951. Four ichthyologists, two hydrobiologists, a chemist and an economist took part in the survey in addition to technicians, etc. The algae and plankton work was reported by L. E. Komarenko, q. v. Copy seen: DLC.

KARASIK, N. TS., see Rakovskii, V. E., and others. Torffanol degot' . . . 1953. No. 47507.

45893. KARETNIKOV, A. P. Zimnee soderzhanie dorog silami DRP. (Avtomobil'nye dorogi. Sept. 1956. god 19, no. 9, p. 17, illus.) Text in Russian. Title tr.: Winter road maintenance by collective DRP (road repairing party) forces.

Snow drift prevention measures, and regular winter maintenance are described in detail. Snow shields (fences) and banks are frequently re-shifted to more effective

positions in relation to the drifts and work of D-4 and D-229 snow removers.

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45894. KAREV, G. I. Kratkafā biologoėkologicheskafā kharakteristika drevesnykh porod lesotundry vostoka evropetskof chasti SSSR. (Rastitel'nost' Krafnego Severa SSSR i ee osvoenie, 1956. vyp. 1, p. 61–69, illus., tables.) Text in Russian. *Title tr.:* A short bioecological description of tree species in the forest-tundra of the eastern European part of the U. S. S. R.

Silvicultural and ecological characteristics are given of Siberian spruce (Picea obovota Ldb.) Siberian larch (Larix sibirica Ldb.) Scotch pine (Pinus silvestris L.) and European white birch (Betula verrucosa Ehrh.). These are the species found most suitable for afforestation of tundras in experimental work carried out since 1950 by the Nar'yan-Mar zonal station. Tabulated data are given on annual growth of young spruce and larch.

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KARLIK, BERTA, see Föyn. E., and others. The radioactivity of seawater. 1939. No. 44928.

45895. KARLING, JOHN SIDNEY 1899 . Canadian species of *Synchytri-*, *um.* (Canadian journal of botany, May 1956. v. 34, no. 3 p. 406-416.) 15 refs.

Contains an annotated list of 18 species of which 13 short-cycled ones cannot be identified with certainty and are not given specific names. Most of them occur on new hosts in new localities two in the North: S. perforatum (British Columbia and Kenai Peninsula, Alaska, on Valeriana sitchensis); and S. cupulatum (Chesterfield Inlet, Keewatin District and Belcher Island, Hudson Bay on Dryas integrifolia).

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45896. KARLING, JOHN SIDNEY, 1899- . Unrecorded hosts and species of *Physoderma*. (Torrey Botanical Club. Bulletin, July 1956. v. 83, no. 4, p. 292–99.) 15 refs.

Contains descriptions of 11 unrecorded species of Physoderma from various herbaria on new hosts. P. on Cicula mackenziana collected by J. A. Calder and J. M. Gillett in Aug. 1949, three miles east of Mayo in Yukon Territory, and P. on Potentilla palustre var. parviflora obtained at Chesterfield Inlet in Keewatin District by D. B. O. Savila in Aug. 1950 are included.

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45897. KARLSTROM, THOR NELS VINCENT, 1920—. The problem of the Cochrane in late Pleistocene chronology. Washington, D. C., U. S. Govt. Print. Off., 1956. p. 303–331, text map, fold. table. (U. S. Geological Survey, Bulletin 1021–J. A contribution to gen-

eral geology) 40 refs.

Age of the Cochrane ice advances in the region south of James Bay (approx. 50° N. 80° W.) is discussed in relation to the conflict between recent radiocarbon chronology and Antevs' North American varve chronology, with references to the literature 1928-1955. Glacioeustatic events in North America and northern Europe which can be correlated with the Cochrane are noted, also post-Cochrane bog records and climatic history in the two areas. U.S. Geological Survey analyses of four radiocarbon samples of peat and wood indicate that ice cover may have existed there from about 36,000 to 4500 B. C., that the Cochrane preceded the Altithermal climatic period (Thermal Maximum); it may be considered a Wisconsin event of sub-stage rank. Radiocarbon dates also support the correlation of the North American Mankato with the European Fennoscandian glacial substage, and the Cochrane with a post-Fennoscandian Copy seen: DGS. climatic event.

45898. KARO, H. ARNOLD. World coastline measurements. (International hydrographic review, May 1956. v. 33,

no. 1, p. 131-40.)

Figures for the shorelines of the world are tabulated. Mainland measurements and those of larger islands are considered reasonably accurate within 5-10 percent. Values in statute miles for selected areas are as follows: Greenland: 8,650; Alaska: 6,640; Canadian northern coast: 6,400, Arctic Islands: 16,605; Svalbard: 1400; Jan Mayen: 65; Iceland: 1,400; the arctic coast of U. S. S. R.: 10,850; also specified islands.

\*\*Copy seen: DLC.\*\*

45899. KARPOV, GEORGIĬ VLADI-MIROVICH. Adol'f Érik Nordenshel'd, Pod red. L. M. Starokadomskogo. Moskva, Gos. izd-vo geogr. lit-ry, 1955. 40 p. illus., port., map. Text in Russian. Title tr: Adolf Erik Nordenskiöld. L. M. Starokadomskiĭ, editor.

Popular biography of the great Swedish explorer, with brief account of his ten expeditions, including his traverse of the Northeast Passage (the first) on the Vega in 1878-1879. Copy seen: DLC.

45900. KARPOV, GEORGII VLADI-MIROVICH. Robert Piri. Moskva, Gos. izd-vo geogr. lit-ry, 1956. 38 p. illus., ports, text map. (Zamechatel'nye geografy i puteshestvenniki). Text in Russian. Title tr: Robert Peary.

Brief account of Peary's life (1856–1920), his arctic expeditions and attainment of the North Pole, Peary's stubborness and perseverance in his undertakings are stressed; his aides (R. A. Bartlett, and others) are characterized; his scientific achievements are summarized (p. 38). Copy seen: DLC.

45901. KARPOV, VIKTOR PAVLO-VICH. Stroitel'nye raboty pri prokladke gazoprovodov. Izd. 2, perer. i dop. Moskva, Izd-vo Ministerstva kommunal'nogo khozûâlstva RSFSR, 1954. 144 p. illus., diagrs. refs. Text in Russian. Title tr: Construction work in laying

gas mains.

Includes as final chapter, Zimnie raboty na trasse: Winter pipe-laying (p. 127-43), in which pipe-laying procedures and the effects of ground freezing on gas pipeline operation are described in detail. Various methods of thawing are explained, using steam, hot water, electric current, hot air or gas, quick-lime and thermo-chemical. Digging frozen ground, using pneumatic tools, machines or explosives is described in detail. Clay and sandy loam with particles 0.005-0.25 mm. in diam. require special attention; capillary rise in such soils may reach 4 m., and there is a loss in bearing capacity when moisture content exceeds 50 percent. Freezing of these finestructured soils results in damage to pipelines from adfreezing and frost heaving. Special instructions are given for welding of pipes at temperatures below 0° C.; between -10° and 20° C. welding must be done under heated cover with slow heating and cooling of the pipe ends. Below  $-20^{\circ}$  C. welding is prohibitory. Copy seen: DLC.

45902. KARPPINEN, EERO OLAVI. Ecological and transect survey studies on Finnish Camisiids; Acar., Oribatei. Helsinki, 1955. 80 p. 29 illus, 14 tables. (Suomalainen eläin- ja kasvitieteellinen seura Vanamo. Eläintieteellisiä julkaisu-ja, v. 17, no. 2) 57 refs. Summary in Finnish.

Study of this family of oribatid mites from soil samples collected in Finnish Lapland in the course of the third transect survey of the forests. Distribution of the species in Finland is described and their occurrence in the soil of various forests and peatland vegetation types is outlined. Role of microfauna in development of soil is stressed, in particular that of oribatids in forest and peat lands. Successive chapters and data tables deal with sampling technique; material; distribution and habitats of the species: generally and in Finland, its biological provinces, forests, and peatlands; influence of environmental factors upon species and populations: the ground vegetation, temperature and moisture changes, ecological valence of the species, and abundance.

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45903. KARPPINEN, EERO OLAVI. Two soil mites (Acar., Oribatidae) new for Finland. (Suomen hyönteistieteellinen aikakauskirja, 1950. v. 16, no. 4, p. 201–202.) 3 refs.

Records find of Camisia lapponica in a peat bog in Pasila, and C. spinifer in Mustjärvi. Both species are new to the fauna of Finland, the former found in Swedish Lapland and in Greenland.

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45904. KARPPINEN, EERO OLAVI. Über die Carabodes-Arten (Acar., Oribatei) Finnlands. (Suomen hyönteistieteellinen aikakauskirja, 1956. v. 22, no 3, p. 138–39.) 8 refs. Text in German. Title tr.: On Carabodes species (Acar., Oribatei) of Finland.

Contains an annotated list of ten species, among them C. subarcticus, C. marginatus, C. forsslundi and C. minusculus occurring in Finnish Lapland.

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45905. KARPPINEN, EERO OLAVI. Untersuchungen über die Oribatiden (Acar., Oribatei) von Kilpisjärvi in Nordfinnland. (Suomen hyönteistieteellinen aikakauskirja, 1956. v. 22, no. 3, p. 121–29, 2 illus.) 24 refs. Text in German. Title tr.: Investigation of oribatids (Acar., Oribatei) of Kilpisjärvi in northern Finland.

Contains a systematic list of 58 species of mites, with brief data on habitat, frequency, and Scandinavian, also total distribution; 16 are new to the fauna of Finland and one to Fennoscandia. Samples were collected in the summer of 1955 by L. Koli (22 stations listed) approx. 69° N. 21° E. Copy seen: DLC.

45906. KARVONEN, VILJO JAAKKO. Lythria purpuraria L., Pyralis regalis

Schiff., Epiblema güntheri Tengstr. ja Nepticula tristis Wck. löydetty Suomesta. (Suomen hyönteistieteellinen aikakauskirja, 1937. v. 3, no. 4, p. 227-28.) 2 refs. Text in Finnish. Summary in German. Title tr.: Lythria purpuraria L., Pyralis regalis Schiff., Epiblema güntheri Tengstr. and Nepticula tristis Wck. found in Finland.

Includes record of northern finds for two of these moths: Epiblema güntheri at Utsjoki in Inari Lappmark in 1936; and of Nepticula tristis in the Petsamo region in 1935, also at Abisko in Torne Lappmark in 1936. Copy seen: DLC.

KASHMENSKIĬ, ÎŪ. N., see Egorov, V. I., and others. Izmeneniiâ funkfsil serdechno-sosudistol sistemy . . . gipotermii, 1956. No. 44738.

KASHYKLEMANIAN, A. K., see Ambartsumfan, G. A., and others. Novyi tip shugosbrosa. 1956. No. 43607.

KASK, JOHN LAURENCE, 1906-, see Bell, F. H., and J. L. Kask. Lampris regius . . . 1936. No. 43938.

45907. KASPAROV, A. A. Issledovatel'skie raboty svíazannye s defatel'nost'íù Khibinogorskof fabriki po obogasheheniú apatita. (In: Khibinskie apatity, 1933. t. 6, p. 50-59.) Text in Russian. Title tr: Research work related to the activities of the Khibinogorsk plant on concentration of apatite.

Processes are outlined in four stages: crushing and grinding by ball mills; flotation in water bath; concentration, filtration and drying; and interfactory transportation, loading; machines and equipment are described. Efficiency of operation and losses in processing and transportation are analyzed with a view to improvement of quality and reduction of production cost. Copy seen: DGS.

KASSIAN, A., see Kirchdorfer, A. M., and A. Kassian. Zur Therapie der Kälteurticaria. 1956. No. 45988.

**45908. KATAJA, EERO.** Report on the activity of the Sodankylä observatory for 1950. (Suomalainen tiedeakatemia, Sitzungsberichte, 1951, p. 30–31.)

A new building has been completed enabling magnetic activities to be put on firmer basis. Normal registration on magnetic elements has been continued, aurora borealis observed only visually. Computations and compilations based on observations are being made.

Copy seen: DGS.

4599. KATS, N. IA., and S. V. KATS. Stratigrafiıâ torfıânikov Priobskogo Severa. (Akademiıâ nauk SSSR. Komissiıâ po izueheniıû chetvertichnogo perioda. Trudy, 1948. t. 7, vyp. 1, p. 15–54, illus. tables.) 42 refs. Text in Russian. Title tr: The stratigraphy of peat bogs of the northern Ob' basin.

A study based on pollen analysis and plant composition of the peat bogs from material collected in 1938-39 between 66°30' N. and about 68°20' N. The lower part of the peat bogs indicates a considerably warmer climate, with trees reaching to Novyy Port (their present limit is south, at Salekhard). The flora was boreal, and instead of peat mounds, flat muddy areas predominated. The cooling which followed in the post-glacial epoch caused a retreat of forests to the present line, about 120 km. south, and the appearance of permafrost. Permafrost of relatively recent origin with remnants of now more southerly trees is found in the Novyy Port area. A fall of 4° C. is estimated for the period under review. Copy seen: DLC.

KATS, S. V., see Kats, N. A., and S. V. Kats. Stratigrafiıâ torflânikov . . . 1948. No. 45909.

45910. KATSURA, SHIGEAKI. Studies on the temperature of the gastrointestinal tract, 12; influence of ingestion of water on the temperature in the upper alimentary tract. (Tohoku journal of experimental medicine, 1956. v. 64, no. 1, p. 27–37, illus., tables.) 10 refs.

Account of changes in the intraesophageal, intragastric and intraduodenal temperatures of healthy subjects after drinking cold (15° C.) or warm water. In the esophagus, temperature changes were maximal during and immediately after drinking; they were larger than in the stomach and recovery was quicker. The upper and lower stomach showed similar changes in temperature. In the duodenum the changes showed a zigzag course and they were smaller than in the two other parts. Copy seen: DNLM.

45911. KATUL'SKIĬ, V. K. Obshchiĭ obzor mestorozhdeniĭ Moncha-tundry. (*In*: Khibinskie apatity, 1933. t. 6, p. 164–67.) Text in Russian. *Title tr.*: General review of the Moncha Tundra deposits.

General geological structures are described for five cliff sections of the Moncha tundra region. The region lacks uniformly differentiated intrusions, large assemblages of rich ores were not found. This tundra is considered of dispersed magmatic type with pyroxenitic veins (2–3 m. thick). The veins contain copper, nickel, sulfides (pyrrhotite, pyrite, chalcopyrite, pentlandite, etc.), also zinc, magnetite and other minerals. Capacities of nickel and copper are estimated in thousands of tons.

Copy seen: DGS.

KATZMAN, J., see Rose, D. C., and J. Katzman. The geomagnetic latitude effect . . . cosmic rays . . . 1956. No. 47657.

KATZMAN, J., see also Rose, D. C., and J. Katzman. The . . . increase in cosmic ray intensity . . . 1956. No. 47661.

KATZMAN, J., see also Rose, D. C., and others. Latitude effect . . . cosmic ray . . . components . . . 1956. No. 47658.

45912. KATZUNG, B., and A. FARAH. Influence of temperature and rate on the contractility of isolated turtle myocardium. (American journal of physiology, Mar. 1956. v. 184, no. 3, p. 557-62, illus.) 22 refs.

A study of conditions at temperatures of 38°-14° C. At lower temperatures an increased rate produced a decrease in contractile force. An increase in rapid stimulation produced a decrease in potentiation at 14° C. but an increase at higher temperatures.

\*\*Copy seen: DLC.\*\*

45913. KAUTSKY, FRITZ. Beobachtungen in den tiefsten Teilen der grossen Sevedecke im nordwestlichsten Arjeplog, Nordschweden. (Geologiska föreningen, Stockholm. Förhandlingar, 1949. bd. 71, häfte 2, no. 457, p. 205–214, diagr., text map.) 7 refs. Text in German. Title tr.: Observations in the deepest section of the great Seve series in northwestern Arjeplog, north Sweden.

In a series of studies on the geology of the mountainous Swedish-Norwegian border area near the Arctic Circle. The Caledonide nappe complex is described on the basis of metamorphic nature and position. Both sedimentary and metamorphosed rocks are traced to possible origins.

Copy seen: DGS.

45914. KAUTSKY, FRITZ, and F. R. TEGENGREN. Die Geologie der Umgebung des Tuoddarjaure am Südrande des Sjangelifensters. (Geologiska föreningen, Stockholm. Förhandlingar, 1952. bd. 74, häfte 4, no. 471, p. 455-74, diagr., 2 text maps.) 8 refs. Text in German. Summary in English. Title tr: The geology of the surroundings of Tuoddarjaure on the southern edge of the Sjangeli window.

In a section of the Kebnekaise region of northern Sweden, near 68° N. tectonic features in the southern part of the Sjangeli gap in the Caledonides differ from those in nearby Sweden and in Norway, where the gap is known as the Rombek window. Unmetamorphosed eo-Cambrian conglomerate and sandstone underlie a shattered shale over which it is presumed the great Seve nappe was thrust. Along the border mountains from the region of Laisvall to the region of Kvikkjokk there are conglomerates and other presumably eo-Cambrian rocks resting on the Archean peneplane. Volcanics play some part in the geology of the area and there has been some mineralization. The views of various investigators of the region are discussed. Copy seen: DGS.

KAUTSKY, GUNNAR. Eine 45915. von einem Gletscher gefurchte Moräne. (Geologiska föreningen, Stockholm. Förhandlingar, 1953. bd. 75, häfte 4, no. 475, p. 490-92, 2 illus.) Text in German. Title tr: A glacially furrowed moraine.

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In northern Norway, on the south side of the glacier Almajalosjägna, Sulitjelma, is a small moraine which was built by the glacier and later furrowed by readvancing ice. As the glacier retreated a second time, the boulders which produced the furrows were left lying in place on its surface. It is believed that the boulders were frozen solidly into the ice and transported across the surface of the moraine without any rotary motion. This observation has significance in demonstrating the formation of glacial grooves. Copy seen: DGS.

45916. KAUTSKY, GUNNAR. Eokambrische Tillitvorkommen in Norrbotten, Schweden. (Geologiska föreningen. Stockholm. Förhandlingar, 1949. bd. 71, häfte 4, no. 459, p. 595-603, 5 illus.) Text in German. Summary in Title tr: The occurrence of eo-Cambrian tillite in Norrbotten, Sweden.

The boundary between Archean rocks and eo-Cambrian sediments is traced, the eo-Cambrian tillite described. A sketch map shows its occurrence at several localities on the northern Norway coast and in Swedish Lapland.

Copy seen: DGS.

45917. KAUTSKY, GUNNAR. Genmäle till O. Kullings Bidrag till diskus-Torneträskberggrunden. sionen om (Geologiska föreningen, Stockholm. Förhandlingar, 1950. bd. 72, häfte 4, no. 463, p. 485–86.) Text in Swedish. 463, p. 485–86.) Title tr: Reply to Oskar Kulling's addition to the discussion on the Torneträsk bedrock.

The question of microscopic determination and tectonic interpretations in the Torneträsk region gives rise to Kulling (q. v.) and others' earlier discussions. Further comments by both Kulling and Kautsky appeared in the same journal in 1951: Bd. 73, häfte 1, p. 132-37. Copy seen: DGS.

45918. KAWABATA, GORO, and T. OTANI. The influence of temperature on the contractility of smooth muscle. (Japanese journal of physiology, 1951. v. 1, no. 4, p. 290-96, illus. table.) 10 refs.

Account of experiments with frog muscle in the temperature range 0°-30° C. Preparations at low temperature showing extremely slow contraction as a result of electric stimulation, respond to sudden rise of temperature by extension, provided that this rise takes place "when the muscle is in a contracted state above a certain degree." Height of contraction evoked by direct stimulation with alternating currents of equal duration are always the same, irrespective of temperature differences, when measured from the lowest (0° C.) base line.

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45919. KAWAKAMI, MASAZUMI. A new thermo-junction for skin temperature measurement with preliminary notes on some observations. (Japanese journal of physiology, 1950. v. 1, no. 2, p. 133-40, illus., tables.) 5 refs.

A description of a thermo-couple with an "extremely low heat capacity and heat conductivity." The main advantages, quick response and exactness, are pointed out and examples of temperatures and their fluctuation of the human body, plants, etc., discussed.

Copy seen: DNLM.

45920. KAWAKAMI, MASAZUMI. The variability of skin temperature in newborn children. (Japanese journal of physiology, 1953. v. 3, no. 3, p. 185-90,

tables.) 2 refs.

Report of a study within a narrow strip of skin. A very small steady variability was exhibited during a period of about a week after birth. This was followed by a phase of increasing variability which may extend well over a year. The activity of sweat glands and development of functional differentiation of the skin as related to these phases is also discussed.

\*\*Copy seen: DNLM.\*\*

KAWAKAMI, TAKEHIKO, see Omura, H., and T. Kawakami. Japanese whale marking . . . 1956. No. 47182.

45921. KAWASE, YOSHIO. Lower Cambrian Archaeocyatha from the Yukon Territory. (Canadian mining journal, June 1956. v. 77, no. 6, p. 165.) Abstract of M. A. Sc. thesis, University of

British Columbia, 1956.

Archaeocyatha from the Wolf Creek and Quiet Lake areas (60°39′-61° N. 131°39′-132°50′ W.) occur in earbonate rocks and are well preserved. The genera Carinacyathus and Loculicyathus are reported for the first time in North America. The Yukon fauna is dominated by Coscinocyathidae and Pycnoidocyathidae, and is related to that of British Columbia, Siberia, and Australia.

Copy seen: DGS.

45922. KAY, JEROME HAROLD, 1921— and R. A. GAERTNER. The treatment of ventricular fibrillation in the hypothermic animal; an experimental study. (Surgery, Apr. 1956. v. 39,

no. 4, p. 619-22.) 10 refs.

Account of experiments with dogs made hypothermic to 31°-21° C. and subsequently subjected to vascular occlusions and operations. Ventricular fibrillation was successfully defibrillated with electric shock, some by a combination with cardiac massage. Those which did not respond to the above treatment alone were defibrillated by additional administration of epinephrine.

Copy seen: DLC.

45923. KAYSER, CHARLES, 1899—. Effet de l'adrénaline sur l'incrément thermique critique de la fréquence cardiaque du rat à coeur totalement dénervé. (Société de Biologie, Paris. Comptes rendus 1955. t. 149, no. 15–18, p.

1655-57). 5 refs. Text in French. Title tr.: Effect of adrenaline on the critical thermal increment of cardiac frequency in rats with totally denervated heart.

In animals with denervated heart, the critical thermal increment is lowered. A similar effect was observed in animals with non-denervated heart following adrenaline administration. Adrenaline is hence considered as cardiac accelerator in both hypothermic and normal conditions of the heart. Copy seen: DNLM.

45924. KAYSER, CHARLES, 1899— L'incrément thermique critique de la durée des différents accidents de l'électrocardiogramme chez le rat blanc, le hamster et le spermophile en hypothermie expérimentale. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 7, p. 1442–45, table.) 16 refs. Text in French. Title tr.: Critical thermal increase in duration of different electrocardiographic features of the white rat, hamster and gopher during experimental hypothermia.

Account of experiments which showed that in the hypothermic rat, the critical thermal increase of the distance T-P is considerably bigger, while the extent of ORS and S-T is much lowered; P, P-Q, Q-T values are intermediate. The cooled or awakening hibernators differed from the rat essentially by the higher value of critical thermal increase of the S-T segment.

\*\*Copy seen: DNLM.\*\*

KAYSER, CHARLES, 1899—, see also Coraboeuf, É., and others. La repolarisation du myocarde au cours de l'hypothermie . . . 1956. No. 44462.

KAYSER, CHARLES, 1899—, see also Spach, C., and others. Effet de la température . . . 1956. No. 48137.

45925. KAZAKOV, A. V. Geotektonika i formirovanie fosforitnykh mestorozhdenil. (Akademiña nauk SSSR. Izvestiña, serifa geologicheskaña, Sept.-Oct. 1950. no. 5, p. 42-68, graphs, tables, maps, illus.) 13 refs. Text in Russian. *Title tr.:* Geotectonics and formation of phosphorite deposits.

Conclusions are presented on geographic distribution of the phosphorite deposits, according to geologic-genetic principles. In contrast to the biolithic theory, it is experimentally proved that phosphorites form through chemical deposition in deep ocean waters at the transition to the

Continental Shelf. Study of the Mesozoic of the Russian platform (47°-69° N. 21°-60° E.) and of other territories indicates that all commercially valuable phosphorite deposits are connected with the region of geotectonic depressions. Comparison of geotectonic and lithologogenetic conditions of the phosphorite formation of the Russian platform is extended also to the United States and The conclusions on Canada (p. 59). distribution of deposits include Barents and Kara Seas, northern Siberian regions and other territories of the Arctic Ocean (p. 62-64, cf. map). Copy seen: DLC.

45926. KAZAKOVA, E. M. K voprosu o morfologicheskom i biokhimicheskom sostave krovi u telîat vyrashchivaemykh neotaplivaemykh pomeshchenifakh. (Fiziologicheskii zhurnal SSSR, 1955. t. 41, no. 3, p. 410–17, tables.) 9 refs. Title tr.: Contribu-Text in Russian. tion on the morphological and biochemical composition of blood of calves raised in

an unheated shelter.

A study of animals reared during the winter at sub-zero temperatures as compared to those kept in heated quarters. During the first months of life (February-April) there was a fall in the quantity of hemoglobin, erythrocytes, leucocytes, albumins, residual-N, inorganic P and K, and a drop in blood catalase number and serum globulins. Conditions improved during pasture in spring and summer, and the animals kept cold during the winter showed greater weight increase than the controls.

Copy seen: DNLM.

KAZANSKII, A. F., see Veinberg, B. P., and A. F. Kazanskil. Mekhanicheskie . . . svolstva l'da. 1940. No. 48713.

45927. KAZHEVNIKOV, A. V. Metody obogashchenifa molibdenita. (In: Khibinskie apatity, 1933. t. 6, p. 144-46.) Text in Russian. Title tr.: Concentration methods for molybdenite.

Various methods of extracting metallic molybdenum from the concentrated ore are described with indication of difficulties. The hydrometallurgical method is favorable technologically but is economically unsound for existing ore concentration, unless a small amount of ore from richer veins is added.

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45928. KAZHEVNIKOV, A. V. Nauchno-issledovateľskie raboty po tekh-

nologii medno-nikkelevykh rud Moncha tundry. (In: Khibinskie apatity, 1933. t. 6, p. 176-79.) Text in Russian. Title tr.: Scientific research work on the technology of copper-nickel ores in the Moncha Tundra.

Outlines research to facilitate ore Either of two concentration dressing. processes should be used: "selective flotation" of copper or copper-nickel, or "collective flotation" of all nickel and copper, depending upon the technological or economic factors. Copy seen: DGS.

KAZHEVNIKOV, A. V. Obogatitel'nasa fabrika lovchorrita. Khibinskie apatity, 1933. t. 6, p. 130-32, Text in Russian. Title tr.: diagrs.) Lovehorrite concentration plant.

Mineral lovchorrite was found only in the Khibiny mountains hence the technology of its concentration was developed according to local facilities. Wet concentration method and magnetic separation are adopted. Arrangement of processes in the experimental plant and flow of metal are diagrammed and briefly described. Plant capacity is about 30 tons ore/day, containing about 10 percent of lovchorrite, corresponding to three tons of 60 percent concentrated product.

Copy seen: DGS.

KEEFE, T. J., see Berryhill, F. M., and Arctic survival food packets X-50 and RPX 2B. 1954. No. 44008,

KEESE, H. see Blanck, E., and others. Beiträge zur chemischen Verwitterung auf Hindö . . . 1928. No. 44052.

KEIR, RONALD S., see International Commission NW Atlantic Fisheries. Statistical bulletin . . . 1954. 1956.45704.

45930. KEITH, MARK MARIAN, 1898- . Notes on some leeches (Hirudinea) from the Yukon Territory, Canada, and Alaska. (Minnesota Academy of Science. Proceedings, 1955, pub. 1956? v. 23, p. 103-104.) 9 refs.

Samples were taken from lakes and streams along the Alaska Highway during summer 1954. Canadian and Alaskan leech fauna are poorly represented in the literature: no previous records exist for Yukon, but three for Alaska. Leeches collected include: Theromyzon rude and Glossiphonia camplanata mullissimi near Northway, Alaska; Erpobdella punctata and Haemopis marmoratis, near Laird Hot Springs, Yukon; Nephelopsis obscura from both these localities. All except Glossiphonia are first records for their area(s). Copy seen: DGS.

45931. KEITHAHN, EDWARD LINNAEUS, 1900 . The tools of the petroglyph mason. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 250–52.)

Abstract of paper (a sequel to No. 8499 of Arctic Bibliography) based on examination of the distributions of rock carvings and certain types of implements, and on experiments with modern and aboriginal tools. In Southeast Alaska, petroglyphs are found exclusively along the shore. Implements, whose distribution coincides with that of the petroglyphs, are the "hat-topped pestle" and the "T-hammer" both usually made of local greenstone. Instruments and methods of working are distinguished.

Copy seen: DGS.

KEITHAHN, EDWARD LINNAEUS, 1900—, see also Morgan, J., and E. L. Keithahn. Alaska . . . 1956. No. 46842.

KEKKONEN, A. P., see Moskva. Vsesofuznafa sel'skokhoz. vystavka. Pavil'on Karelo-Finskafa SSR . . . 1955. No. 46863.

**45932. KELLAWAY, G. A.** Notes on the geology of the Mackenzie delta. Abstract. (Canadian geographer, 1956. no. 7, p. 12.)

West of the delta are primarily Mesozoic sedimentary formations, with some coal-bearing rocks 25 mi. northwest of Aklavik (old site). Rocks east of the delta include dolomite, limestone, and shale. Large areas are covered with unconsolidated deposits. Most striking feature in this area is the Caribou Hills escarpment. The Caribou Hills formation is similar to Tertiary lignite-bearing formations described from other parts of northern Canada and Alaska.

Copy seen: DLC.

45933. KELLER, ABRAHAM SAM-UEL, 1921-, and J. T. CASS. Petroliferous sand of the Chignik formation at Chignik Lagoon, Alaska. Washington, D. C. 1956. 5 p. fold. map, fold. section. (U. S. Geological Survey. Reports, open file series, no. 387.) 3 refs.

Contains results of authors' investigations in summer 1955 on the northwest side of Chignik Lagoon (Bay), Alaska Peninsula (56°28' N. 158°10' W.), where fossil-bearing petroliferous sands of the Late Cretaceous Chignik formation were found. Exposed rocks consist of sandstone, siltstone, shale, and conglomerate of the Chignik and Naknek formations. Stratigraphic section in which sands were found is described and permeability determinations made on three samples are given, fossils found in the Cretaceous and Jurassic beds, are listed.

Copy seen: DGS.

45934. KELLER, ALLEN D. Hypothermia in the unanesthetized poikilothermic dog. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 61-79, illus.) 13 refs.

Contains two parts: (1) studies and observations on dogs made totally or partly poikilothermic by hypothalamic intervention; these studies are mainly concerned with the various aspects of heat production. Pt. 2 deals with the effects of hypothermia on various functions: renal, cardiovascular, mental, locomotor and related. Whole-blood pH, CO<sub>2</sub> and arterial O<sub>2</sub> were studied in the second series, as well as core and surface temperatures and their relations.

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45935. KELLEY, JAMES B. Heat, cold and clothing. (Scientific American, Feb. 1956. v. 194, no. 2, p. 109–116, illus.)

Contains general discussion of body temperature and protection of the body from extremes of heat and cold, with emphasis on cold. Deals with effects of exercise; effects of various types of clothing on routes by which the body loses heat; recent studies on U. S. armed forces of Eskimo diet (and effect on basal metabolism) and clothing; wind-chill factor; measure of clothing needs developed by U. S. Army. Stresses need for adaptation of diet and mode of life to the climatic situation. Copy seen: DGS.

KELLEY, JOHN J., see Sullivan, B. J., and J. J. Kelley. Influence of venous occlusion and procaine block . . . vascular responses to frostbite. 1956. No. 48250.

**KELLY, F. H.,** see Mayer, S. W., and others. Further observations . . . I <sup>131</sup> metabolism of pre-frozen thyroid . . . 1956. No. 46669.

45936. KELSALL, JOHN P. Barrenground caribou movements in the Cana-

dian Arctic. (North American Wildlife Conference, 20th, *Montreal, Canada*, 1955. Transactions, p. 551–60, map.) 6 refs.

Report of a study continued by the author since 1950, and concerning five of the herds originally proposed by Banfield (cf. No. 20443, 33446). Movements, population numbers distribution and were followed with the aim of establishing usual and constant conditions as well as variables, both essential in management plans. Most emphasis has been placed on the study of wooded winter ranges between the north side of Great Slave Lake and the south side of Great Bear Lake. Copy seen: DI.

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KELSALL, JOHN P., see also Banfield, A. W. F., and others. An aerial survey technique . . . big game. 1955. No. 43858.

45937. KEMMERIKH, A. Pripoliârnyi Ural. (Vokrug sveta, Aug. 1956, no. 8, p. 16, illus., col. plate.) Text in Russian. Title tr.: Sub-polar Ural.

Notes the wild beauty of the Northern Ural and its natural resources, basis for the coming industrialization of the area. Illus. include col. photo. of Mt. Narodnaya (1,894 m.).

Copy seen: DLC.

45938. KEMMERIKH, A. O. Zamerzanie rek. (Priroda, Oct. 1956. god 45, no. 10, p. 127–28, illus.) Text in Russian. *Title tr.:* The freeze-up of rivers.

Observations on river freezing in the Soviet Union are summarized with discussion of the ice movements ("ledokhod") and the final freeze ("ledostav"). The whole process in the U.S.S.R. (including Siberia) takes about three-and-a-half months: October-January. The first rivers to be ice-bound in the European section are those in the Polar Ural and Pay-Khoy region. In Siberia the freezing begins in far northeast on the Kolyma, Anabar, Indigirka, Yana, sometimes at the end of September, and spreads to the south. As a rule, small rivers freeze later than large ones flowing in the same direction. Copy seen: DLC.

45939. KEMP, HAROLD STUART MILLER, 1892– . Northern trader. New York, Bouregy & Curl, 1956. 253 p.

Popular account of the author's life, with his family, in the Lac La Ronge country of northern Saskatchewan: where he was trader primarily for Revillon Frères, 1911–1927; duties at the post throughout the year, habits of the Cree

Indians of the region, fur-trapping methods and trips, etc.

Copy seen: DLC.

45940. KEMP, J. D., and R. M. BAL-LANTYNE. Field evaluation of Canadian Arctic Five-Man Individual Ration Pack, RPX1F, Toronto, 1956. 34 p. illus., tables. (Canada. Defence Research Medical Laboratories. DRML report no. 173–16.) 2 refs.

Report of trials conducted at Fort Churchill with 40 members of the Arctic Instructors course. The design of the pack was found suitable for feeding troops under arctic conditions, but serviceability of individual cartons needs improvement. The quantity of food was adequate; its acceptibility was also evaluated.

\*\*Copy seen: DNLM.\*\*

45941. KENDREW, WILFRID GEORGE, and D. P. KERR. The climate of British Columbia and the Yukon Territory. Ottawa, Queen's Printer, 1955. x, 222 p. 8 illus., text maps, graphs, 101 tables. Reviewed by Svenn Orvig in Arctic, 1956, v. 9, no. 4, p. 265.

One of a series of reports on Canadian climate (that on the Canadian Arctic Archipelago is listed as No. 25333; Central Canada, No. 45942; that on northern Quebec-Labrador is in preparation).

Climate of northern B. C.-Yukon (north of 55° N.) is dealt with in pt. 2 (p. 147-222). Physical geography and climatic divisions are described briefly, with full treatment of pressure systems, winds, air masses, frontal zones, temperature and humidity, clouds and sunshine, precipitation, visibility. Tabular data are presented from four stations in northern B. C.; ten in the Yukon: Aishihik, Carcross, Dawson City, Elsa, Frances Lake, Mayo Landing, Snag, Teslin, Watson Lake, Whitehorse; also Aklavik in Mackenzie District.

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45942. KENDREW, WILFRID GEORGE, and B. W. CURRIE. The climate of central Canada: Manitoba, Saskatchewan, Alberta and the Districts of Mackenzie and Keewatin. Ottawa, Queen's Printer, 1955. ix, 194 p. illus., text maps, graphs, 212 tables. Reviewed by F. K. Hare in Arctic, 1956. v. 9, no. 3, p. 208.

Based on records from 63 stations, 22 in northern Manitoba, Mackenzie and

Keewatin. Account is given of general climatic features of the region as a whole, accompanied by maps, with emphasis on physical controls determining important elements. Then follow more detailed descriptions of the climate of six regional subdivisions, including the Mackenzie Basin (as region 1) and the Barren Grounds (2-3). For each, the available climatic data are tabulated for winds, temperature, humidity, cloud, sunshine, precipitation, visibility. Climatological tables with monthly values for all climatic elements are given for Fort Good Hope, Fort Resolution, Fort Simpson and Fort Smith in region 1 (p. 92-95) and for Aklavik, Lake, Baker Chesterfield. Churchill, and Coppermine in regions 2-3 (p. 115-119). Copy seen: DLC.

45943. KENNEDY, CLARENCE HAMILTON, 1879— . Professor James Stewart Hine. (Entomological news, June 1931, v. 42, no. 6, p. 177–80.)

Obituary note on this entomologist and explorer, noting his work as entomologist and ornithologist on the first and second Expedition of the National Geographic Society to the Katmai volcanic region of Alaska in 1917 and 1919. Bibliographical notes.

Copy seen: DA.

KENNEDY, M. A., see Berryhill, F. M., and others. Stability . . . ration pack RPX-1. 1955. No. 44009.

KENNEDY, VIRA E., see Lavenda, N., and others. Leucocyte changes . . . rodents exposed to cold . . . 1956. No. 46270.

**45944. KENNEDY, WILL.** Breaking the snow barrier. (Field & stream, Jan. 1956. v. 60, no. 9, p. 27–29, 60, illus.)

Describes the Snow Bird, an aerosled or snowmobile for cross-country travel in Canada. Built by the Grover Brothers of Duluth, Minn., the vehicle averages more than 30 m. p. h. with a 65-hp. airplane engine with pusher propeller. Three spring-mounted metal skis with stainless steel runners are attached, one on each side of the vehicle toward the rear and one under the middle of the cabin at the front. The front ski is activated by an auto-steering column. The cabin accommodates six. An account is given of its first trip.

\*\*Copy seen: DLC.\*\*

45945. KENNEDY, WILLIAM ALEX-ANDER, 1915- . The first ten years of commercial fishing on Great Slave Lake. Ottawa, 1956. 7, 58 p. illus., tables. (Canada. Fisheries Research Board, Bulletin, no. 107.) 20 refs.

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Pt. 1 (p. 1-14) contains information on the geographical, physical and biological conditions of the Lake; its fish, development of the area and its fishery, presentday fisheries. Pt. 2 (p. 15-50) presents an outline of scientific research in Great Slave Lake fisheries, including methods of collecting and analyzing data; average weight of trout and whitefish, the two main commercial fishes, taken during, 1945-54; size distribution of these and other fishes; annual catches of the main and minor species, production per square mile, etc.; fishing success over the period reviewed; efficiency of nets used; fishing effort; problem of overfishing; management. Copy seen: Dl.

45946. KENYON, KARL WALTON, 1918—, and V. B. SCHEFFER. The seals, sea-lions and sea otter of the Pacific Coast: descriptions, life history notes, photographs and drawings. Washington, D. C., U. S. Govt. Print. Off., 1955. 34 p. illus. (U. S. Fish and Wildlife Service. Circular 32.) 27 refs.

Eleven species are dealt with, nine of them partly or fully arctic. Descriptions, include morphology and anatomy, behavior, range, breeding and breeding habits, food, economic value, development and growth, etc. An identification key of the animals described is appended. Similar to No. 30022. Copy seen: DI.

45947. KERÄNEN, JAAKKO, 1883—. Die Temperaturschwankungen in Finnland seit dem Jahre 1830. (Physikalische Verhandlungen, 1953. Jahrg. 4, Heft 8, p. 230.) Text in German. *Title tr.:* The temperature fluctuations in Finland since the year 1830.

Contains abstract of paper presented before the German Meteorological Society on Oct. 2, 1953 in Berlin. The longest most regular meteorological observations in Finland are available from Helsinki since 1828 and from Oulu (65°00′ N. 25°30′ E.) since 1846. A noticeable improvement in climate occurred during the warmest five-year period, 1934–1938, due to temperature increase, resulting in a climatic shift of the entire country by 400–500 km. to the southwest. Since 1940 a certain regression of temperature has begun.

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45948. KERÄNEN, JAAKKO, 1883- . "The variation of the compas magnetic

declination 1950." (Geophysica, 1952, v. 5, no. 1, p. 50-52.)

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A brief description is given of a map of magnetic declination showing the mean variation of the compass needle at the beginning of 1950 and the known regions of magnetic disturbance. The map is the result of joint undertaking by the four Scandinavian countries, Rolf Kjaer of Norway chairman; and it was printed in the summer of 1952 by the Hydrographic Office of Norway. It was based on data from 11,254 observation stations in Norway, Sweden, Finland, and Denmark. Several features of the isogonic lines are mentioned. Copy seen: DLC.

45949. KERKUT, G. A., and B. J. R. TAYLOR. Effect of temperature on the spontaneous activity from the isolated ganglia of the slug, cockroach and crayfish. (Nature, Aug. 1956. v. 178, no. 4530, p. 426, illus.) 3 refs.

Account of investigation on isolated pedal ganglia of the slug, thoracic and abdominal ganglia of the cockroach and the crayfish. In all three decreasing temperature was observed to produce a transient increase in activity, whilst an increase in temperature is followed by a temporary decrease of activity. This anomalous behavior is most pronounced in the slug.

\*\*Copy seen: DNLM.\*\*

KERNER, see TSivol'ka, A. K., and S. A. Moiseev. Plavanie . . . k Novol Zemlië v 1838 i 1839 . . . 1845. No. 48485.

KERNS, WILLIAM H., see Ransome, A. L., and W. H. Kerns. Names and definitions . . . 1954. No. 47517.

KERNS, WILLIAM H., see also Ransome, A. L., and W. H. Kerns. The problem of . . . names . . . geographic regions . . . 1954. No. 47518.

KERNS, WILLIAM H., see also Rutledge, F. A., and others. Preliminary report: nonmetallic deposits . . . construction . . . 1953. No. 47716.

KERR, DONALD P., see Kendrew, W. G., and D. P. Kerr. The climate . . . Yukon . . . 1955. No. 45941.

45950. KERR, LILLIAN B. Bibliography of geology, palaeontology, industrial minerals, and fuels in the post-Cambrian regions of Manitoba. Winnipeg, King's Printer, 1951. 38 p. (Manitoba. Dept. of Mines and Natural Resources. Mines Branch. Publications 51-2.)

In two parts: the first, a listing by author of approx. 230 publications; the second a subject index in two sections: geology and paleontology, industrial minerals and fuels. Includes references to northeastern Manitoba, the Hudson Bay region. A similar bibliography on the Precambrian was compiled by G. C. Milligan, q. v. Copy seen: DGS.

45951. KESSEL, BRINA, and T. J. CADE. Habitat preferences of the birds of the Colville River. (*In:* Alaskan Science Conference. . . . 1953. Proceedings, pub. 1956, p. 179–81.)

Report of investigation on the distribution of birds along the Colville River according to habitat, during summer 1952. Sixty-two species were recorded and their distribution among 14 habitats studied. The primary users of each habitat are listed.

\*\*Copy seen: DGS.\*\*

45952. KESSEL, BRINA. Patterns of bird and mammal distribution in Alaska. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub.* 1956, p. 190–97.)

'A discussion of the geographic origin of Alaskan birds and mammals; time of their migration to Alaska; geologic and climatic conditions as factors in distribution; effect of current factors (topography of area); migration and migration routes; present-day distribution as affected by isolation, climate, habitat, competition, etc.

\*Copy seen: DGS.\*

45953. KESTEN, BEATRICE MAHER, 1899- . The effects of sunlight on the skin. (American Medical Association. Journal, Aug. 18, 1956. v. 161, no. 16, p. 1565-67.) 10 refs.

Contains information on early knowledge of the action of sunlight, its influence on the skin, wave lengths most effective, protective and injurious action, allergic responses to, and aggravating effects of sunlight; prophylaxis and therapy of pathological effects of sun rays.

Copy seen: DNLM.

KEYS, ANCEL, see USQM Food and Container Institute. Nutrition symposium. 1954. No. 48643.

45954. KHALAPSIN, N. V. Lopari, zyriâne i samoedy sela Lovozera v sanitarnom otnoshenii. (Murmanskoe obshchestvo kraevedeniiâ. Doklady i soobshcheniiâ. 1927, vyp. 1, p. 23–34, tables.) Text in Russian. Title tr.: Sanitary conditions of Lapps, Zyryans

and Samoyeds in the village of Lovozero.

Report based on author's investigations in April 1926 at Lovozero on the Kola Peninsula. The population comprised 184 Lapps, 412 Zyryans and 69 Samoyeds, and these groups held, respectively: 1,371, 3,864 and 416 reindeer. living conditions, cleanliness, lighting of the dwellings, food, birth and death rates, use of alcohol and tobacco, and also education are described. The best conditions were found among the Zyryans, with their roomy, well built, clean houses; their abundant food included meat, fish, bread, vegetables and milk; and they had a high rate of school attendance; 46 out of the 65 children at the local school were Zyryans.

Copy seen: DLC (microfilm); SPRI.

45955. KHARITONOV, LUKA NIKI-FOROVICH. O vlifanii russkogo fazyka na fakutskii fazyk. (In: Akademifa nauk SSSR. Ākutskii filial. Institut fazyka, literatury i istorii. Vedushehafa rol' russkogo naroda . . ., 1955. p. 216–30.) 9 refs. Text in Russian. Title tr.: The influence of Russian upon the Yakut

Describes lexical influence of Russian on the Yakut language, giving examples of changes in phonetics and connotation. The chief categories of subject matter, and main words within these categories, adopted during tsarist times are enumerated; some examples of new terminology acquired under Soviet rule are given. A total of about 3000 Russian words were adopted up to the Revolution; the rate of integrating new words has increased rapidly since then, especially in political, scientific and technical fields. According to some preliminary evaluation, words of Russian origin constitute up to 40 percent of the total number of words used in newspaper articles on foreign affairs, 30 percent in editorials, 14 percent in literary prose, and six percent in poetry. Copy seen: DLC.

45956. KHARKHUTA, N. IA., and IV. M. VASIL'EV. Vozvedenie nasypeI v zimnee vremia. (Avtomobil'nye dorogi, Sept. 1956. god 19, no. 9 (167), p. 4-6, illus.) Text in Russian. *Title tr.*: Construction of road fills during winter.

Mechanized methods of road construction on frozen and thawed ground are described with consideration of the ratio of frozen to thawed mass to prevent ground sliding. Regular observation of moisture in the ground is stressed, also

adequate compression of the bed by heavy rollers, plates and by pneumatic tamping pads. Work must be suspended during heavy snow storms and resumed only after snow removal.

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45957. KHATSENKO. A. TV. Bor'ba s puchinami na dorogakh Éstonii. (Avtomobil'nye dorogi, Sept. 1956. god 19, no. 9 (167), p. 15–16, illus.) Text in Russian. *Title tr.:* Combat road heaving in Estonia.

Heaving in roads and streets is analyzed and explained by poor construction and insufficient drainage in spring. Special roadside ditches should be dug and kept open during snow thaw in areas where heaving is common. Local increase of the road elevation is also advised.

Copy seen: DLC.

45958. KHEÏSIN, E. M., and T. K. KUZNETSOVA. Kholodostoľkosť fâits, lichinok i vzroslykh klesheheľ *Ixodes ricinus* L. i *Ixodes persulcatus* P. Sch. (Akademifâ nauk SSSR. Karelo-Finskif filial, Trudy, 1956. vyp. 4, ser. parazitologicheskafâ, p. 116–30, illus. tables.) 25 refs. Text in Russian. *Title tr.*: Cold resistence of eggs, larvae and adult of tieks *Ixodes ricinus* L. and *Ixodes persulcatus* P. Sch.

Account of experiments with temperatures as low as  $-20^{\circ}$  C. and exposures lasting up to four weeks. Cold resistence was low in all three stages. This is explained by the fact that these species live in a relatively warm environment, in the litter, under the snow. Exposure to cold increased the cold resistence of the three developmental stages.

Copy seen: DLC.

45959. KHIBINSKIE APATITY; itogi nauchno-issledovateľ skikh i poiskovykh rabot, 1933. Leningrad, Goskhimte-khizdat, 1933. t. 6: 283 p. illus., maps, tables, diagrs. Text in Russian. Title tr.: Khibiny apatites; summary of scientific investigations and prospecting work in 1933. Vol. 2–5, 7 are described as No. 8593.

Contains 64 papers, introductory and summary statements, reviewing scientific and technological research work on apatite-nepheline and related mineral deposits in the Khibiny tundras during 1931–33. The papers were presented at a conference of scientific research groups and scientific organizations of Khibinogorsk (Kirovsk), Kola Peninsula,

on the subjects of metals, minerals and rare earth deposits, methods of search, prospecting and mining. Preliminary matter comprises a preface by A. E. Fersman; an appeal by Fersman (as chairman) for conference support in further research and in mining of valuable deposits; and a review of the conference program (70 organizations participating) by A. M. Oranzhireeva, who abstracts the main subjects of discussion. introductory speech is given by V. I. Kondriko, "Conditions and problems of research work" in relation to mining activities generally in Kola Peninsula. A second introductory speech was delivered by A. E. Fersman on the past 13 years' research work and major objectives in further development of Khibiny The following 64 papers (titles deposits. translated) are abstracted in this volume of Arctic Bibliography under their authors' Finally (p. 278-80) V. I. Kondrikov summarized the work of this conference.

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#### I. A patito-nephelinic complexes

ANTONOV, L. B. General review of data on the apatite-nepheline arch of the

Khibiny tundras. p. 23-25.

GODOVIKOV, V. I. Study of the geology of Kukisvumchorr apatite-nepheline deposits and various types of their ores. p. 25-29.

PRONCHENKO, G. S. Apatite-neph-

eline deposits in Yukspor. p. 29-34. SHEVCHENKO, M. I. Results of searching and prospecting work in the eastern part of the apatite-nepheline arch in the Khibiny. p. 35-36.

MOZEL', I. M. Qualitative characteristics of apatite production in the Khibiny

tundras. p. 36-42.

VLADIMIROV, P. N. New mining production project in the Kukisvumchorr apatite-nepheline deposits. p. 42-50.

KASPAROV, A. A. Research work related to the activities of the Khibinogorsk plant in concentration of apatite. p. 50-59.

RAKOVSHCHIK, M. E. Research work in the Kol'skiy mining and chemical

combine. p. 59-62.

VOLKOV, P. A., and N. V. BELOV. Method of extraction of calcium oxide from apatite. p. 63-65.

CHERNIKOV, L. A. The use of apatite in ferrous metallurgy. p. 65-67.

CHIRVINSKII, P. N. Some considerations on the use of apatite ore in metallurgy. p. 67-69.

# II. Sulfur and Sulfuric acid

KONSTANTOV, S. V., and I. I. SOBOLEV. Pyrrhotite deposits in the southwest part of Khibiny. p. 70-86.

VOLKOV, P. A. Decomposition of nepheline by sulfuric and sulfurous acids. p. 87-89.

## III. Rare elements

KRASNOPOL'SKIĬ, I. M. The problem of rare elements in the U.S.S.R. p. 90-95.

FERSMAN, A. E. Rare elements in the Khibiny and Lovozerskaya tundras. p. 95-99.

1. Work on zirconium

SAL'E, E. A. Preliminary results of the surveys of zirconium ores in the Lovozerskaya Tundra. p. 100-101.

VLODAVETS, V. I. Zirconium formations in the southwest part of the Lovozerskaya Tundra. p. 101-104.

#### 2. Work on rare earths and thorium

AFANAS'EV, M. S. Lovehorrite for-

mations in Yukspor. p. 105-107. OZHINSKIĬ, I. S. Lovchorrite formations in the outer belt of the Khibiny tundras. p. 107-111.

ANTONOV, L. B. Formation of kondrikite in the Loparskiy valley. 111-12.

ZOTOV, P. P. Mineralogy of the lovchorrite deposits. p. 112-14.

BORNEMAN-STARYNKEVICH, I. Chemical composition of lovehorrite and kondrikite. p. 114-18.

SMIRNOV, G. F. Methods of concentration of lovchorrite.

ntration of lovehorrite. p. 118-30. KAZHEVNIKOV, A. V. Lovehorrite concentration plant. p. 130-32.

SAL'E, E. A. Methods of geophysical prospecting for lovehorrite. p. 133-35.

KOMLEV, L. V. Radiological investigation in Khibiny tundras. p. 135-39.

#### 3. Work on molybdenum

ZOLOTAR', M. L. Investigation of the Takhtarvumchorr deposits of molybdenite. p. 139-41.

ITSIKSON, M. I. Molybdenite in pyrrhotite zone of the central part of

Khibiny massif. p. 141-44.

KAZHEVNIKOV, A. V. Concentration methods for molybdenite. p. 144-

GREIVER, N. S. Hydrometallurgical refining of molybdenum concentrates of the Takhtarvumchorr deposits. p. 147-53.

SEMEROV, P. F., and M. N. DZHAK-SON. Technical and economic analyses of the Takhtarvumchorr deposits. p. 154 - 55.

ERMOLIN, G. N. Chemical methods of analysis of molybdenite ores. p. 156-

### IV. Sphene and titanite

ANTONOV, L. B. Survey data on titanite (sphene) in Yukspor. p. 158-60. SMIRNOV, G. F. Concentration of titanite (sphene). p. 160-63.

#### V. Copper-nickel ores in the Moncha Tundras

KATUL'SKII, V. K. General review of the Moncha Tundra deposits. p. 164-

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KONDRAT'EV, V. I. Methods of geophysical prospecting for copper-nickel ores in the Moncha Tundra region. p. 175 - 76.

KAZHEVNIKOV, A. V. Scientific research work of the technology of coppernickel ores in the Moncha Tundra. p. 176 - 79.

#### VI. Iron ores

SERK, A. IU. Magnetite deposits of the Imandra region. p. 180-89. KONSTANTOV, S. V. Problem of

preparing data on the iron ores of Kola Fiord. p. 189-92.

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## VII. Geological and geochemical study of different parts of the Khibiny region

VOLODIN, E. N. A geological survey of the Rischorr (Partomchorr). p. 196-97.

GUTKOVA, N. N. A mineralogical survey of the Kitchepakhk, p. 197-99. KRAVCHENKO, G. T. A mineralog-

ical survey of the Suoluayv. p. 200-202. LABUNTSOV, A. N. A mineralogical survey of the central part of the Khibiny massif: zirconium, catapleiite, and fersmanite. p. 202-209.

VOROB'EVA, O. A. A petrographic and chemical survey of the southwestern part of the Lovozerskaya Tundra. p. 210-13.

SOUSTOV, P. I. Geological and petrographic investigations in the Umba region and Fedorova Tundra. p. 213-16.

TOKAREV, V. A. Work of the Kandalaksha mineralogical and geochemical parties of the Kola Complex Expedition of Academy of Sciences U. S. S. R. 1933. p. 216-18.

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### VIII. Hydrology, climatology and Quaternary geology

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Kola Peninsula. p. 230-33. GUDLEVSKIĬ, A. F. Utilizing wind power in the Khibiny region. p. 233-37.

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### IX. Soils, deposits, flora and fauna

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of the Khibiny region. p. 255-57. FRIDOLIN, V. ÎU. New data and materials on the biocenosis of fauna and flora of the Khibiny region from observations in the summer of 1933. p. 257-62.

## X. Work of different organizations

ANTONOV, L. B. Organization of the geological prospecting and scientific research work of "Novpromapatit." 263-64.

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VOROB'EVA, O. A. The Khibiny mining station of the Academy of Sciences U. S. S. R. p. 268-70.

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Kondrikov, V. I. Summary of the work of the Conference and future problems. p. 278-80. *Copy seen:* DGS.

45960. KHMEL'NITSKAIA, A. Neotoslannoe pis'mo. (Sovetskaia zhenshchina, Dec. 1956, no. 12, p. 11–13, illus.) Text in Russian. *Title tr.:* An unsent letter.

Describes life of women workers at the Irkutsk hydro-electric station on the Angara River. Recounts an old Angara legend. Photos by L. Danilov.

Copy seen: DLC.

45961. KHODAK, Ū. A. O flivorite iz nizhnekembrišskikh porod Aldanskogo rajona Ākutskof ASSR. (Akademira nauk SSSR. Doklady, Jan. 21, 1956. v. 106, no. 3, p. 533–36, plate.) 7 refs. Text in Russian. *Title tr.:* On fluorite from lower Cambrian rocks of the Aldan region of the Yakut A. S. S. R.

Results of the study of calcium fluorite (CaF<sub>2</sub>) found in small crystals included in dolomite rocks. Crystallographic characteristics of fluorite are noted and its genesis discussed.

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45962. KHOLOSTOV, V. G. Kaban v Arkhangel'sko'i oblasti. (Moskovskoe obshchestvo ispytatelel prirody. Bûlleten', Otd. biol. July-Aug. 1956. nov. ser. t. 61, no. 4, p. 82.) Text in Russian. Title tr.: Wild boar in the Arkhangel'sk region.

Contains a record of this animal (a male, two and one-half years old) killed on Jan. 21, 1953, near the village of Odino. This is about 700 km. northeast of the previously known limit of its distribution.

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45963. KHOMENTOVSKIĬ, A. S. Priznaki verkhne-paleozoIskogo oledenenifa v fizhnof chasti Sibirskof platformy. (Moskovskoe obshchestvo ispytatelel prirody. Bfilleten', 1948. god 119. Otdel geologicheskiĭ, t. 23, no. 4, p. 81–86, text map.) 12 refs. Text in Russian. *Title tr.*: Evidences of Upper Paleozoie glaciation in the southern part of the Siberian platform.

Describes investigations of the character of quartz pebbles and boulders, quartzites and other metamorphic rocks and their distribution on the Siberian platform. The pebble-boulder deposits were locally formed, lower coal-bearing layers of the Permian epoch in the Tunguska basin. The study of pebble distribution indicates that they were carried from the nearest mountains by Upper Paleozoic glaciers and the pebbles themselves represent remnants of Upper Paleozoic moraines.

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45964. KHOMENTOVSKIĬ, A. S. Struktura i tektonika ûgo-zapadnol chasti Sibirskol platformy. (Moskovskoe obshchestvo ispytatelel prirody. Bûlleten', 1945. god 116. Otdel geologicheskil, t. 20, no. 5–6, p. 115–29, text map.) 25 refs. Text in Russian. Summary in English. Title tr.: Structure and tectonics of the southwestern part of the Siberian platform.

Contains structural analysis of the southwestern Siberian platform in the region of the Yenisey - Angara basins. Area of discussion is divided into five parts, which include the Proterozoic massif of the Yenisey ridge and Archeozoic or lower Proterozoic Chadobets massif. The structural similarity of the southern part of the Yenisey ridge and northern foothills of eastern Sayan makes it possible to outline a new aurific region in the eastern Sayan. Copy seen: DLC.

45965. KHOMICHEVSKAĀ, L. S. O ponātii "defatel'nyī slo!" v oblasti rasprostraneniā mnogoletnemerzlykh gornykh porod. (Akademiā nauk SSSR. Institut merzlotovedeniā. Materialy k osnovam ucheniā o merzlykh zonakh zemnoī kory, 1955. vyp. 2, p. 45–51, diagrs.) 9 refs. Text in Russian. Title tr.: The concept of "active layer" in permanently frozen rock areas.

"Ambiguities in the use of the term "active layer" are noted. The use of the terms seasonal freezing and thawing is suggested. The active layer applies to the ground layer affected by winter freezing or summer thawing and also to those layers subject to annual variations in temperature. The term is sometimes applied to all strata located above the permafrost layer. Separate terms are recommended for all these processes and conditions."—SIPRE.

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45966. KHOREV, B. S., and V. S. VARLAMOV. V srednem Priangar'e. (Geografia v shkole, Nov.—Dec. 1956. god 19, no. 6, p. 6–18, illus., map.) Text in Russian. *Title tr.:* In the middle Angara River Basin.

Reviews construction of several hydroelectric plants planned on the Angara River, with an aggregate capacity of 10 million kw. and an annual production ca. 70 billion kwh. The largest plant, of 3.2 million kw. capacity, is to be built at the Padun Rapids near Bratsk. These installations together with the new Tayshet - Bratsk - Ust'-Kut branch line connecting the Trans-Siberian railroad with Lena Basin, will aid development of the rich natural resources of the area. Map shows location of mineral (coal ,iron ore, salt) resources, roads, and construction projected for the 6th five-year plan. Copy seen: DLC.

KHOROSHIKH, P. P., see Lisitsyna, N. K. Arkheologicheskie issledovanifa . . . 1953 g. 1956. No. 46390.

45967. KHOROSHUK, V. V. Opyt mekhanizovannol uborki snega na Chelfabinskom uzle. (Zheleznodorozhnyl transport, Sept. 1956. god 38, no. 9, p. 69–72, illus.) Text in Russian. *Title tr.*: Mechanized snow removal at the Chelyabinsk railroad terminal.

"The procedure and equipment used for several years are described, and equipment performance is discussed. clearing and deepening of tracksides before snowfall proved effective in drift control and favored better meltwater run-off and low moisture in the roadbed. Compressed air was used for switch Best results were obtained cleaning. with the Balashenko earth mover, the lateral scrapers of which were used for cleaning and deepening the tracksides, and the middle blade for snow removal. The machine could work with snow of any density in contrast to standard railroad snowplows. Its operating speed (3-6 km./hr.) was more suitable for terminal conditions than the 15-18 km./hr. required for standard snowplows."-SIPRE. Copy seen: DLC.

45968. KHOZAINOVA, É. E. Foneticheskafa sistema komi fazyka. (In: Akademifa pedagogicheskikh nauk RSFSR, Moskva. Institut nafsional'nykh shkol. Rodnof i russkif fazyki..., 1956. p. 118-45, tables.) 5 refs. Text in Russian. Title tr.: The phonetic system of the Komi language.

Gives a phonetic analysis of the Komi (Zyryan) language including its southern and northern dialects. Endemic and borrowed phonemes, sound combinations, syllables, accentuation, rules of vowel

gradation, interchange and assimilation of consonants, etc., are discussed.

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KHRAMOVA, V. V., see Akademiia nauk SSSR. Institut étnografii. Narody Sibiri. 1956. No. 43522.

KHRAMOVA, V. V., see also Stepanova, M. V. and I. S. Gurvich. IUkagiry. 1956. No. 48199.

45969. KHRAPAL', A. A. Gazogenerator na Severe. Moskva, Izd-vo Glavsev-morputi, 1943. 83 p. illus., tables, diagrs., 3 maps, 4 refs. Text in Russian. *Title tr.:* The gas generator in the North.

Contains a general review of the use of solid fuels (brown coal and wood) in truck, tractor and automobile engines and in small electric power stations in the arctic regions. The review was sponsored by the Arctic Scientific Research Institute and a practical introduction contributed by the Main Administration of the Northern Sea Route. Costs of shipping, distribution and use of various fuels are analyzed with statistical data for various northern localities. Wood-gas, generated from local log-chunks, was found to be from three to seven times cheaper than gasoline or naphtha. Construction and operation of gas generators with wood and brown coal are described in detail with consideration of specific cold conditions. Modification of conventional engines for gas fuel is outlined particularly in respect to separate suction and discharge of gases, higher ignition voltage, enlarged radiator capacity and fuel-supply lines. Starting and servicing of the engine are covered in the appendix. Copy seen: DLC.

45970. KHROMOV, SERGEĬ PETROVICH, 1904– . Kolebaniâ klimata i sovremennoe poteplenie. (Priroda, Jan. 1956. no. 1, p. 24–34, 2 sketch maps, 2 diagrs.) Text in Russian. *Title tr.:* Climatic fluctuations and the present warm trend.

A general discussion of climatic cycles and trends. Data on climatic amelioration of the Arctic (Barents Sea basin, Novaya Zemlya, Greenland, Arctic Basin) are presented (p. 28-30); changes in mean annual temperatures are noted.

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45971. KHROMOV, SERGEĬ PETRO-VICH, 1904– , *Editor*. Sinopticheskie protŝessy Dal'nego Vostoka. Moskva, Gidrometeorologicheskoe izd-vo, 1940. Photostat in 158 l. of original in 306 p., tables, charts, diagr., graphs (Moskva Tsentral'nyl institut pogody). Text in Russian. *Title tr.*: Synoptic situations

in the Far East.

Contains nine papers prepared by six authors and edited by S. P. Khromov on synoptic situations and movements of arctic air masses in the Far East. Data recorded during the period 1932–36 are analyzed with respect to the direction of movement of cyclones and anticyclones. The studies were made to develop a method for weather forecasting on the basis of identified factors. Each paper (except Sinnitin's and Matinak's) is analyzed in this Bibliography under the author's name, viz:

SUBBOTIN, I. Problems of winter synoptic situations in northeastern Asia.

p. 5-63.

REKSTYN', V. Calendar and characteristics of air masses during winter

above Vladivostok, p. 64-103.

Sinûtin, V. G. Distribution of velocity and direction of wind at altitudes, indicated by balloon observations at Vladivostok from 1932 to 1936. p. 104-120.

Matinıak, G. V. Synoptical conditions for formation of fogs in the Bay of Petra Velikogo, on the coast of the Japanese Sea and in the Tatar Strait. p. 121-51.

KALASHNIKOV, V. P. Problems concerning the synoptic characteristics of the East Siberian and Chukchi Seas during the navigation period. p. 152–78.

SHTABOVA, A. I. Basic types of synoptic situations in the Far Eastern region and their recurrence. p. 179-97.

SHTABOVA, A. I. Synoptic processes (axes) of the cold half-year in the Far East. p. 198–226.

SHTABOVA, A. I. Synoptic conditions for the invasion of arctic air masses into the Far East. p. 227-82.

SHTABOVA, A. I. Synoptic characteristic in February-April on the line between Aleksandrovsk and Petropavlovsk, p. 283–304. *Copy seen:* DLC.

45972. KHVATAĬ-MUKHA, KLAVDIĀ FILIPPOVNA. Mestno-tvoritel'nyī padezh s obstoßtel'stvennym znacheniem v ßzyke severnykh khanty; sredneobskiī, kazymskiī dialekty. (In: Akademiā pedagogicheskikh nauk, Moskva. Institut nasional'nykh shkol. Rodnoī i russkiī ſāzyki..., 1956. p. 197–207.) 7 refs. Text in Russian. Title tr.: The locative-

instrumental case with adverbial meaning in the language of the northern Khanty; the central Ob' and Kazym dialects.

Describes the three cases of the northern Khanty (Ostyak) noun: nominative, dative-directional, and locative-instrumental. The last, formed with the suffix -n, -ny, -na, has an adverbial meaning of place, time and mode of action.

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45973. KHVOSTIKOV, I. A. Zemlíà i solntŝe. (Znanie—sila, Sept. 1956, no. 9, p. 8–12, illus.) Text in Russian. *Title tr.:* The earth and the sun.

Popular sketch of the influence of solar radiation upon atmospheric phenomena; auroras are discussed (p. 11).

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**45974. KIDD, D. J.** Medical aspects of maritime arctic operations. (Canadian services medical journal, Oct. 1956. v. 12, no. 9, p. 751–57.)

Account of experience gained during cruises of the ice-breaker Labrador in 1954 and 1955. Extra strain encountered by boat and crew and the peculiar climatic conditions are indicated. Protective clothing, diet, quarters, morale are discussed, as well as the problems of diving, flying fatigue (the vessel carried three helicopters). Health of the ship's company is reviewed and future needs in research noted. Copy seen: DNLM.

45975. KIEFT, CORNELIS. Geology and petrology of the Tärna region, southern Swedish Lapland. Academisch Proefschrift, Universiteit van Amsterdam. Assen, Van Gorcum & Comp. N. V., 1952. 98 p. 28 illus. 2 maps, table. (Amsterdam. Universiteit. Geologisch Instituut, Mededeling no. 198.) 24 refs. Summary in Dutch.

The Tärna region, approx. 65°45′ N. 15° E. has several inhabited localities, as well as a road that connects norther castern Sweden and the North Atlantic coast of Norway; much of the region is below treeline. Each of the geologic units in this section of the Swedish Caledonides is described by the writer in turn and petrographically analyzed. The geologic circumstances seem to differ from those in localities recently investigated by Aleva, and Mulder, q. q. v., a short distance to the north. Copy seen: DGS.

45976. KIESLINGER, ALOIS, 1900 - . Karsterscheinungen im hohen Norden. (In: H. Küpper, and others. Skizzen zum Antlitz der Erde, 1953. p. 371-75, 2 illus., diagr., map.) 9 refs. Text in German. *Title tr.:* Karst occurrence in

the high North.

In colder latitudes weathering is generally confined to physical and mechanical forces. Here chemical effects are cited from Spitsbergen, the Lofotens, and from north Norway, where at 67°42′ N., near Sildhopfjell, a tunnel has been developed in coarse-grained marble. Minor karst basins are found nearby. They are believed to be of post-glacial development, probably of the later warm period, and are of smaller dimensions than those described by Gunnar Horn, q. v.

Copy seen: DGS.

KIHN, WILLIAM LANGDON, 1898—, see National Geographic Society. National Geographic on Indians . . . 1955. No. 46941.

KILÁR, SAROLTA, see Nagy, L., and S. Kilár. A hypoxia okozata energiaforgalom és testhömérsékcsökkenés . . . 1956. No. 46928.

45977. KILBURN, L. C. Geology of the MacBride Lake area, Granville Lake mining division, Manitoba. Winnipeg, Queen's Printer, 1956. 24 p. fold. map. (Manitoba. Dept. of Mines and Natural Resources. Mines Branch. Publication 55–2.) 3 refs.

Map (scale 2 in.: 1 mi.) covers the area 56°45′-57° N., 99°45′-100° W., between the settlements of Lynn Lake and South Indian Lake. Drainage is southward into the Churchill River system. region is blanketed with glacial drift, primarily sandy and clayey silt. Precambrian bedrock consists of metamorphosed sediments and volcanic and intrusive rocks. Regional structural trend is eastward: no evidence of faulting was found. A basis for chronology is suggested. No known ore bodies occur, but zones for future prospecting are noted. Copy seen: DGS.

45978. KIL'DÍŪSHEVSKIĬ, I. D. K flore mkhov pripolîarnogo Urala. (Akademiîa nauk SSSR. Botanicheskiĭ institut. Trudy, ser. 2, Sporovye rasteniîa, 1956. vyp. 11, p. 313–32, text map.) 6 refs. Text in Russian. *Title tr.*: A contribution to the moss flora of sub-Polar Urals.

Contains an annotated, systematic list of 181 species of mosses collected by the author during his trips in 1948-51, mostly on the banks of various rivers in the Northern Urals: the Kozhim, Khulga, Kempazh, etc. Copy seen: DA.

45979. KIL'DÎÜSHEVSKIÎ, I. D. Podsnezhnoe razvitie nekotorykh vidov flory Malogo ÎAmala. (Botanicheskiî zhurnal, Nov. 1956. t. 41, no. 11, p. 1641–46, 4 tables.) 18 refs. Text in Russian. Title tr.: Under-snow development of some species of the Malyy Yamal flora.

The life of (reindeer) fodder plants under snow cover, was studied during the winter of 1941, at the agricultural station Khus-Yaga on the Nyda River in Yamal Peninsula. Percentage green parts in relation to the whole mass/gm. dry weight, length of the green parts, and ground temperature conditions are tabulated. Plants still partly green when the snow comes may be divided into four groups: some with the green almost gone; others with ca. 5-8 percent, 25 percent, or with all their green parts intact. The ratio between living and dead parts fluctuates all the time. Growth begins in green parts in spring under the snow, where the temperature is much higher than outside. Under-snow development of plants is an established fact but the process is not yet clear.

Copy seen: DLC.

**45980. KILESSO, A.** Moshchnye paromy-ledokoly. (Morskol flot, May-June 1945. god 5, no. 5-6, p. 33-36, table.) Text in Russian. *Title tr.:* Powerful ferry-icebreakers.

A Russian, a Swedish, and four Canadian ice-breaking ferries are described, with tabulation of essential characteristics.

\*\*Copy seen: DLC.\*\*

KIMBALL, D. S., see Bless, R. C., and others. East-west motions . . . aurora. 1955. No. 44053.

45981. KIMBALL, HERBERT HAR-VEY, 1862— . The unusual atmospheric haziness during the latter part of 1912. (Washington Academy of Sciences. Journal, May 19, 1913. v. 3, no. 10, p. 269-73.)

Haziness almost uninterrupted for over two months, as noted at various observatories in the United States, is attributed to (1) meteorological conditions: two anti-cyclonic areas crossed the region in June 1912; (2) smoke from forest fires in Yukon Territory and British Columbia; (3) smoke or dust from Katmai Volcano, Alaska, during eruption. The sola will peri

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fall of volcanic ash caused the diminution of atmospheric transparency and reduced the percentage of sky light polarization about 20 percent. The effect of decreased solar intensities upon air temperature will be probably a long continued cold period in the United States.

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45982. KIMMEY, JAMES W. Survey in Alaska for forest-tree diseases, including cull in Sitka spruce and western hemlock. (In: Alaskan Science Conference . . 1953. Proceedings, pub. 1956, p. 110-12.)

Information is presented on previous studies of tree diseases in Alaska; the 1952-53 survey of the Division of Forest Pathology, U. S. Dept. of Agriculture and its findings; the 1953 study of heart rots and other cull in Sitka spruce and western hemlock (to provide percentages for commercial stands); pathological collections from the Territory, etc.

Copy seen: DGS.

45983. KINCAID, TREVOR. The Psychodidae of the Pacific Coast. (Entomological news, Feb. 1899. v. 10, no. 2, p. 30-37, 13 illus.)

Contains a key to the genera and descriptions of 12 species, of which 10 are new. Pericoma sitchana n. sp. from Sitka, Alaska, and Psychoda pacifica, occurring in Sitka, Unalaska and Pribilof Islands, are included.

Copy seen: DA.

45984. KINDBERG, NILS CONRAD, d. 1910. Genera of European and North American Bryineae (mosses), synoptically disposed. (Göteborgs k. vetenskapsoch vitterhets-samhälle. Handlingar, 1897. Ny tidsföljd, häfte 32, p. 1–40.)

An introduction to a synoptic moss flora of Europe and North America. Systematic descriptions are given of 169 genera (11 new) in 38 families (seven new). *Copy seen:* DLC.

45985. KING, JAMES R., and D. S. FARNER. Bioenergetic basis of light-induced fat deposition in the white-crowned sparrow. (Society for Experimental Biology and Medicine. Proceedings, Nov. 1956. v. 93, no. 2, p. 354–59, illus.) 29 refs.

Premigratory fat deposition was observed in these birds both under natural conditions and in captivity. This is accompanied by increased food intake (hyperphagia) released by increase in

light. A similar condition was produced experimentally by subjecting the birds in midwinter to 20 hrs. of light per day. *Copy seen:* DNLM.

45986. KINOSITA, SEHTI. Breakdown of snow by impact, I. (Teionkagaku, Low temperature science, Sapporo, 1955, ser. A, no. 14, p. 95-111, illus., tables, graphs, diagrs.) 10 refs. Text in Japanese. Summary in English

Text in Japanese. Summary in English. "The method of measurement is described, and the results of experiments on several types of snow are discussed. A solid lead cylinder (5 kg.) was fitted into a hollow iron cylinder with a steel spring at the bottom along which high resistance wires were stretched. cylinder was dropped into snow from a height of 0-6 cm. and the changes in the resistance of the wires with the contraction and expansion of the spring were recorded with an electro-magnetic oscillograph, thus recording the resistive force of the snow. A large resistive force, lasting about 0.01 sec., was observed when the cylinder touched compact snow, after which it became constant. In wet, granular snow, the oscillogram showed large amplitude fluctuations. For soft snow the resistive force increased gradual-The energy absorbed by compact snow increased with the mass of snow compressed. The ratio between the mass of snow compressed and energy absorbed was 0.5:1.5. The rate of compression of granular snow decreased gradually with the increase of energy absorbed."-SIPRE. Copy seen: DWB.

KINOSITA, SEIITI, see also Huzioka, T., and S. Kinosita. Studies . . . resistance . . . snow sledge, III . . . 1955. No. 45665.

45987. KIPARISOVA, L. D., and Ū. N. POPOV. Raschlenenie nizhnego otdela triasovoï sistemy na fărusy. (Akademifă nauk SSSR. Doklady, Aug. 1, 1956. t. 109, no. 4, p. 842–45.) 20 refs. Text in Russian. *Title tr.:* The subdivision of the lower Triassic system into stages.

Various systems of subdivision of the marine Trias are noted. The author proposes to subdivide the lower Triassic system in Siberia (Kolyma, Indigirka, Olenek basins and eastern Taymyr Peninsula) in two stages (upward): Ind and Olenek. Ind stage is subdivided (upward) in three faunistic zones: Otoceratan, Gyronitan and Flemingtan, for

which the following amonites are typical: Otoceras, Ophiceras, Proptychites, Paranorites, Koninckites, etc. The Olenek stage is subdivided into two zones (upward): Owenitan and Columbitan including the following genera of ammonean cephalopod shells: Dinarites, Prosphingites, Sibirites, Olenekites, etc. Schemes of subdivision are given on two tables. Copy seen: DLC.

KIRCHDORFER, A. M., and 45988. A. KASSIAN. Zur Therapie der Käl-(Therapie der Gegenwart, teurticaria. Jahrg. 95, Heft 5, p. 161-64, Text in German. Title tr.: illus.) Title tr.: Treatment of cold-urticaria.

Contains information on the pathogenesis and incidence of the syndrome, as viewed by various authorities, and authors' presentation of nine cases, four of them women. Symptoms, condition of vegetative system, general health, therapy and its successes and failures are discussed. One case of psychosomatic significance is presented in detail.

Copy seen: DNLM.

KIREEV, I. A., see U. S. S. R. Komitet SSSR po provedeni@ 2-go MPG. Gidrologicheskie . . . morskikh ékspeditsil . . . 1937. No. 48513.

KIR'ÎANOVA, E. S. see Filip'ev, I. N. Novyl volosatik . . . 1956. No. 45988.

45989. KIRILLOV, F. N. Parazitofauna ryb reki Leny. (Priroda, Nov. 1956. god 45, no. 11, p. 112.) Text in Russian. Title tr.: Parasitic fauna of the Lena River fishes.

Salmonidae (Coregonus autumnalis, C. muksun and C. albula) are most important in the lower Lena, and they are infected mostly by flatworms, (Ligula intestinalis) and aquatic fungi (Saprolegnia). A parasitic copepod, Argulus foliaceus, is widely distributed in Lena basin (Vitim River).

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KIRILLOV, F. N., see also Karantonis, F. E., and others. Ryby . . . Leny. 1956. No. 45892.

KIRIS, I. D., see Osipov, E. Prognoz v okhotnich'em promysle. 47206.

45990. KIRK, EDWIN, 1884- . Paleozoic glaciation in southeastern Alaska. (Washington Academy of Sciences. Journal, Feb. 19, 1919. v. 9, no. 4, p. 107-108.) Contains description of Silurian glacial conglomerate, under- and overlain by fossiliferous marine limestones, observed on Kosciusko and Heceta Islands (55-60° N. 133-34° W.) off the west coast of Prince of Wales Island. The conglomerate has a thickness of 1000-1500 ft.; it consists of heterogenous, unstratified, or poorly stratified material. The limestone series overlying it carries a rich Conchidium fauna; the limestones below carries also a rich fauna of pentameroids, corals and gastropods of Niagaran age. The shoreline is strewn with pebbles and smoothed and rounded boulders.

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45991. KIRK, EDWIN, 1884- . Pycinodesma, new name for Pycnodesma (Washington Kirk not Schrammen. Academy of Sciences. Journal, Dec. 19, 1927. v. 17, no. 21, p. 543.)

New molluscan genus from the Silurian of Alaska described as Pycnodesma in No. 8740 of Arctic Bibliography is renamed: Pycinodesma, with P. giganteum Kirk as the genotype. Pycnodesma had been used by Schrammen for a Cretaceous sponge. Copy seen: DLC.

KIRKLAND, S. J. T., see Budding, A. J., and S. J. T. Kirkland. The geology . . Reindeer River area. 1956. No. 44179.

KIRKNESS, WALTER, and 45992. R. R. PARKER. An age analysis of the 1951 and 1952 samples of Taku River king salmon by use of stratified subsampling and the normal curve. Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 72-73.)

A simplified method for age-length determination is described and evaluated. Age composition of king salmon from various sources of the area for 1951 and 1952 is recorded. Copy seen: DGS.

KIRKNESS, WALTER, see also Parker, R. R., and W. Kirkness. Estimates . . . population . . . salmon . . . Taku River . . . 1954. No. 47253.

45993. KIRSTEINS. ANDREW. Survival of cortisone- and corticotropintreated rats during exposure to cold. (Surgery, Aug. 1956. v. 40, no. 2, p. 337-48, illus., tables.) 16 refs.

Account of experiments which suggest that tolerance to cold is significantly greater at rest than during moderate exercise; this was not appreciably changed by short-term cortisone or corticotropin administration or by adrenal suppression. However, long-term cortisone administration definitely increased tolerance to cold both at rest and during moderate exercise. **Copy seen:** DNLM.

**45994. KIRTSOVA, TAT'ÎANA.** At Spitsbergen. (News, July 1, 1955, no. 13 (96), p. 19-20, illus.)

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Describes arrival of the Levanevskit with supplies and relief personnel for three Soviet coal-mining settlements, Barentsburg, Grumant and Pyramiden, on Isfjorden in Vestspitsbergen. Everyday life, recreational activities and intercourse with Norwegian neighbors are outlined.

Copy seen: DLC.

4595. KISHINSKII, M. I. Avtomobil'-naı vyvozka lesa po ledı anym dorogam. (Lesnaı promyshlennost', Sept. 1956. god 34, no. 9, p. 4–7, illus., diagrs.) Text in Russian. Title tr.: Automotive transportation of timber on ice roads.

Three types of the automotive sledtrains, used in the northern timber industry, are described and their pro-The twin-sled ductivity is analyzed. trailers carrying the logs are substantially the same in all three, but the loading method differs. With the first type, used mainly on snow roads and for long logs. the log is placed half on the truck carriage and half on the twin-sled trailer. second type, used also for snow roads, the truck carriage is loaded with short logs, and the long logs are placed on trailers with two twin sleds. In third type, used exclusively on ice roads, the truck is loaded with ballast (stones) for traction and the logs on attached trailers on sleds. The ice roads are prepared and maintained by a special (trailer) unit equipped with water tank, large rotating brush, scraper and plow (designed by E. IA. Vitkovskii). Copy seen: DLC.

KISHINSKII, M. I., see also Shaul'skii, F. I. Sukhoputnyi transport lesa. 1951. No. 47926.

**KISOV, B. S.,** see Kopytov, S. D. Tralovyl lov ryby . . . 1956. No. 46077.

45996. KITZE, F. F. Engineering studies at Fairbanks Research Area. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 21.)

Contains a brief abstract describing the Permafrost Research Area established by the U. S. Corps of Engineers in 1946 for the purpose of obtaining design information for placing engineering structures in permafrost. The four subareas are used principally to study effects

of: removal of natural cover; base design and surface materials used in runways; buildings on degradation of permafrost; various types of piling.

Copy seen: DGS.

45997. KITZE, F. F. Experiments in drive sampling of frozen ground. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1807–1808.)

Abstract of paper presented at the Seventh Alaskan Science Conference (AAAS), Juneau, Sept. 27–30, 1956. Test pits and core boring with rotary-drilling equipment, commonly-used methods for subsurface exploration, have disadvantages when applied to frozen ground. Drive sampling procedures with various equipment were used at the Permafrost Research Area of the U. S. Corps of Engineers near Fairbanks. Equipment used is noted. Further experimentation is needed.

Copy seen: DGS.

KJAER, ROLF, see Keränen, J. "The variation . . . compass magnetic declination 1950." 1952. No. 45948.

KJØLSEN, FRITS HAMMER, 1893—, see Denmark. Grønlands kommando. Nogle oplysninger . . . Grønlands kommando . . . 1952. No. 44593.

45998. KLÆBO, ARTHUR. Grønlandsfiskarar. (Polarboken, 1956, p. 31-38, 3 illus.) Text in Norwegian. Title tr.: Greenland's fishermen.

Title tr.: Greenland's fishermen.

Account of the cod fishery, with emphasis on rise of the port of Faeringerhavn, West Greenland. Norwegians in that trade come from Ålesund; for generations they have fished the Atlantic north of the Arctic Circle, from the White Sea and to Baffin Bay. Daily activities aboard ship and in port during the fishing season are outlined, some statistics of catch, etc., are included.

Copy seen: DLC.

45999. KLEIN, WILLIAM H. Prevailing tracks of lows and highs. (Weatherwise, 1956. v. 9, no. 3, p. 83–87; no. 4, p. 128–31, 135; no. 5, p. 158–61, 177; no. 6, p. 205–209, text charts.)

First four of six articles which discuss the outstanding climatological features and month-to-month evolution of the prevailing tracks of cyclones and anticyclones in the Northern Hemisphere. The months July through Feb. are considered; last two articles to follow in 1957. Includes discussion of arctic and subarctic regions. Copy seen: DN-HO.

46000. KLEINERMAN, JEROME. Effects of changes in arterial pCO<sub>2</sub> on cerebral blood flow and metabolism during hypothermia. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia... symposium, Oct. 1955, pub. 1956. p. 251–52, illus.) 2 refs.

Report of investigation on dogs aimed to clarify whether low metabolism during hypothermia contributes to hypoxia of brain tissue. Cerebral flow was found to increase with increasing ApCO<sub>2</sub> values, and animals with the highest ApCO<sub>2</sub> had the lowest cerebral O<sub>2</sub>-consumption.

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46001. KLEIVAN, HELGE. Labrador i støpeskjeen; trekk av et kulturskifte. (Polarboken, 1956, p. 65-98, illus., text map.) Text in Norwegian. *Title tr.:* Labrador in the casting ladle; features of a cultural change.

Sketch of early Eskimo and Indian inhabitants of the Labrador Peninsula, and the influences of early white contacts: the Moravian missions from the latter 18th century, traders, European settlers, Eskimo numbers now increase northward in proportion to settlers. In the south there is racial blending and decreased use of native languages, except at the Eskimo community of Rigolet in Hamilton Inlet and the Indian settlement at Davis Inlet. Both English and Eskimo are to be taught in public schools. Analysis is given of present-day influences upon native life and culture, including epidemics, discarding of native tools and equipment, work opportunities at Goose Bay airport, incorporation of Newfoundland and Labrador into Canada, recent discoveries of uranium and copper near Makkovik, and the proposed power development at Grand Falls. Copy seen: DLC.

46002. KLEPACH, A. G. Vysokie urozhai pomidorov v teplitsakh na Krafnem Severe. (Sad i ogorod, Jan. 1956, no. 1, p. 30–33, illus., tables.) Text in Russian. *Title tr.:* High tomato yields from greenhouses in the far North.

Describes successful tomato growing on the state farm Ukhta in Komi A. S. S. R.; best strains for growing in the North, seedlings, fertilizing, foliar nutrition, etc. In 1955, the yield averaged 15.5 kg./sq. m. for the 1240 sq. m. of ground in the hothouses.

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KLEPPING, J., see Tanche, M., and J. Klepping. Importance de l'anesthésie . . . 1955. No. 48339.

KLIMENKO, A. K., see Vasiliskov, P. A., and others. Izuchenie zazhorov . . . 1956. No. 48695.

46003. KLINE, DOROTHY, and others. Effect of exposure to a cold environment on labeling of phospholipide in rat liver slices. (Society for Experimental Biology and Medicine. Proceedings, Aug.—Sept. 1956. v. 92, no. 4, p. 756–58, tables.) 7 refs. Other authors: C. McPherson, E. T. Pritchard, and R. J. Rossiter.

Exposure to an environmental temperature of 4-5° C. for 12 days, or to -5° C. for three hours prior to the experiment caused a decrease in the labeling of the phospholipide from acetate-1-C<sup>11</sup>; no change was observed in radioactive labeling when the slices were respiring in media containing other substances tried.

\*\*Copy seen: DNLM.\*\*

KLINGER, OTTO J., see Samaras, S. C., and others. Anoxia . . . refrigeration, pregnancy . . . 1956. No. 47774.

46004. KLINOV, F. A. Ob odnom opticheskom favlenii pri snegopade. (Meteorologifa i gidrologifa, Mar. 1953, no. 3, p. 56–57.) Text in Russian. Title tr.: An optical phenomenon during snowfall.

Light pillars similar to those formed by searchlights were observed near Yakutsk during a snowfall in 1951. The phenomenon occurred in the presence of car headlights and other sources of intense light and resulted in an increased beam width of 5–8 diam. and deflection of beam vertically. A horizontal disposition of falling snow plates is considered the most probable cause of the phenomenon.—
From SIPRE.

Copy seen: DLC.

KLISCH, J. A., see Mardoian, F. M., and others. How to winterize construction equipment. 1956. No. 46617.

KLÍŪGE, G. A., see Murmanskoe obshchestvo kraevedeniía. Obshchestvo . . . 1927. No. 46905.

46005. KLOTS, ALEXANDER B. Oveviviparity in *Colias?* Lepid.: Pieridae. (Entomological news, Feb. 1935. v. 46, no. 2, p. 58.)

Contains a report of finding a well-

developed, apparently first instar larva in the oviduct of a female Colias hecla from Churchill, Manitoba.

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KLUB. Osnovnye novostrolki 46006. shestol patiletki. (Klub, July 1956. god 6, no. 7, map between p. 16-17.) Text in Russian. Title tr.: Basic new construction under the sixth Five-yearplan.

Industrial map of the U.S. S. R., shows sites and type of planned development in 1955-60; installations at Mur-Vorkuta, Magadan and on mansk, Kamchatka Peninsula are included.

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46007. KLUB. Po zovu partii. (Klub, Nov. 1956. god 6, no. 11, p. 1-19, map, Text in Russian. Title tr.: illus.)

At the call of the Party.

Collection of articles on, and for volunteers going to work at new industrial centers in the U.S.S.R. Includes (p. 3-9) sketch of the Moscow-Magadan train trip of 500 young construction workers, impressions of the town and industrial sites of the region; life and recreational facilities at the hydro-electric station at Bratsk (Angara River) and its 12,000-member youth collective.

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KLUB. Smotr idet. (Klub, Jan. god 6, no. 1, p. 25.) Russian. Title tr.: A survey takes

Surveys are conducted among trade union members in U.S.S.R. to find creative and artistic (theater, music) talent; Kamchatka (first time) and Kamchatskaya Oblast' (Magadanskaya Oblast') have been surveyed recently.

Copy seen: DLC.

46009. KLUMOV, S. K. Nekotorye itogi ekspeditsii v Beringovo more i na Kuril'skie ostrova. (Akademifa nauk SSSR. Vestnik, May 1956. god 26, no. 5, p. 32–37, maps.) Text in Russian. Title tr.: Some results of the expedition to the Bering Sea and Kuril Islands.

Brief account of a hydrobiological expedition to Bering and Okhotsk Seas on the schooners Nerpa and Krylatka in Apr.-Nov. 1955, sent by the Institute of Oceanography and the Pacific Research Institute of Marine Fisheries and Oceanography, chiefly for study of the distribution of cetaceans and plankton. Nerpa made an oceanographic cruise in Bering Sea, covering the whole area west from 170° W. and making hydrobiological stations every 30 miles (cf. text map, p. 33). Considerable fields of plankton (chiefly Calanus cristatus) were found in the central part of the Sea and in Aleutian waters. Many large sperm whales, moving in small groups westward in spring and eastward in fall were observed off the Commander and Aleutian Islands, and various other large whales (fin, sei, grey whales), also lesser finners, killers, dolphins, sea lions, fur seals and other marine fauna were encountered in quantity in the central and southern areas of Bering Sea. The Krylatka carried out a similar study in southern part of Okhotsk Sea and off Kuril Islands.

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46010. KNABEN, GUNVOR. Chromosome numbers of Scandinavian arcticalpine plant species, 1. (Blyttia, 1950. bd. 8, hefte 4, p. 129-55, illus., 28 diagrs., table.) 64 refs. Summary in Norwegian.

Morphology, ecology, geographical divergence, and species variation of Norwegian arctic-alpine flora are rationalized in a study of chromosome numbers in flora which may have, at least in part, survived the ice age in Norway. More than 20 species, many of them from arctic Norway, are distinguished from closely resembling specimens, and are identified with finds from other arctic localities.

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46011. KNABEN, GUNVOR. Småbergknapp (Sedum annuum L.) en toårig plante. (Blyttia, 1954. bd. 12, hefte 2, p. 109–113, illus.) 6 refs. Text in Norwegian. Summary in English. *Title* tr.: Sedum annuum L., a biennial plant.

Experiments are reported showing that Sedum annuum L. is a biennial plant, and not an annual as believed since the species was described by Linné (1753). The first summer after the seeds have germinated, the plants develop caespitose stems with small dense rosettes. latter hibernate, and only in the second summer the plant produces the fertile shoots which are generally described in floras and manuals as S. annuum. The investigated plant is widely distributed Norway, including the northern provinces. Copy seen: DA.

46012. KNABEN, NILS. On the occurrence and distribution of Apamea Tr. (Hydroecia auct.) species in Norway; Lep., Noct. (Norsk entomologisk tidsskrift,

1956. bd. 10, hefte 1, p. 48-62, 3 illus.,

4 text maps.) 19 refs.

Four species are studied, and localities given for each, and some remarks on genital characteristics; A. crinanensis from Saltdalen, in Nordland fylke (67° N.) is included. Copy seen: DA.

46013. KNAPP, DAVID GOODWIN, 1907— . Arctic aspects of geomagnetism. [Washington, D. C.] 1956. v. 65 p. diagr., maps, tables. (In: U. S. Office of Naval Operations. The dynamic North,

v. 1, no. 12.) 375 refs.

An historical review of magnetic research in the Arctic from 1556 is given. Expeditions which have carried on magnetic measurements are listed and discussed briefly, including the Franklin search as well as those of the First and Second International Polar Years. The modern concept of geomagnetism in the Arctic is outlined, and magnetic fields of the Northern Hemisphere are mapped. Current problems for research are mentioned. A comprehensive annotated bibliography of 375 references is included. Copy seen: DLC.

**46014. KNECHT, R. W.** Evaluation of the radio propagation forecasts of the North Pacific Warning Service. (*In:* Alaskan Science Conference . . 1952. Proceedings, pub. 1954, p. 217-18.)

Abstract of paper on the Service, initiated May 1951 at Anchorage, Alaska, by the National Bureau of Standards. Long-term (25 days) forecast of likely disturbance periods, seven-day's forecasts for radio reception, and short term (8 hrs.) forecasts for the period Jan-June 1952 are evaluated in the paper with discussion of methods, conditions, etc.

\*\*Copy seen: DGS.\*\*

46015. KNECHT, R. W. Relationships between aurora and sporadic-E echoes at Barrow, Alaska. (Journal of geophysical research, Mar. 1956. v. 61, no. 1, p. 59-69, illus., 4 graphs.) 16 refs.

"During Mar. 1951, a series of visual auroral observations were made simultaneously with ionospheric soundings at Barrow (71°17′ N. 156°30′ W.). Auroras were visible during 82 percent of the 379 observations, made at least every 15 min. during the dark hours of 10 successive clear nights. Three nights are described in detail. Statistical results include (1) a strong tendency for sporadic-E (Es) echoes at frequencies≥ 7 Mc to be recorded when aurora was near

the zenith; (2) a direct relationship between brightness of (inactive) aurora and the top frequency of Es echoes; (3) evidence for the correspondence of (oblique) Es echo ranges with estimated slant ranges of visible auroral forms. The observations lend support to the view that ionization in the immediate vicinity of visible auroral forms gives rise to ionospheric-type reflections at high frequencies."—Author's abstract.

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KNÍAZEV, see Slavin, S. V. Plavaniía cherez Karskoe more . . . 1949. No. 48060.

46016. KNIGHT, KENNETH LEE, 1915— and L. A. JACHOWSKI. Arctic and subarctic insect pests and their control. Washington, D. C., Aug. 1956. 3, 13 p. tables. (U. S. Navy. Chief of Naval Operations. Operational briefs,

OPNAV PO3-29.) 14 refs.

Deals (p. 3-7) with mosquitoes (Culicidae), their taxonomy, seasonal development; activity periods; chemical control; "protective" clothing, bed nets, repellents; protection of dwellings; treatment of bites. Similar information is offered on black flies (Simuliidae); midges or punkies (Heleidae); horse and deer flies (Tabanidae); snipe flies (Rhagionidae); and filth flies (Calliphoridae and Sarcophagidae).

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KNIGHT, KENNETH LEE, 1915—, see also Stone, A., and K. L. Knight. Type . . . mosquitoes . . . II . . . Aedes . . . . 1956. No. 48214.

KNIGHT, S. J., see Foster, C. R., and S. J. Knight. A review of soil and snow trafficability. 1955. No. 44943.

KNÖPFELMACHER, F., see Andjus, R. K., and others. Effects of hypothermia on behaviour. 1955. No. 43642.

KNORRE, E. K., see Knorre, E. P., and E. K. Knorre. Zakonomernosti rosta . . . losîa. 1956. No. 46017.

46017. KNORRE, E. P., and E. K. KNORRE. Zakonomernosti rosta i sezonnykh izmenenii zhivogo vesa losiâ. (Zoologicheskii zhurnal, Aug. 1956. t. 35, vyp. 8, p. 1229–37, 7 diagrs.) 4 refs. Text in Russian. *Title tr.*: Regularities of the growth and seasonal fluctuations in the live-weight of the elk.

Contains results of a study carried out in the Pechora-Ilych reserve in Arkhangel'sk province, during the last eight years. The elk (Alces alces) was found to be a very fast-growing animal; it attains 160 kg. weight at the end of its sixth month, when growth often stops due to poor nutrition during the winter; if sufficiently fed, it might reach 200 kg. and more by the end of the first year. Growth continues fast during the summer of the second year, and the young elk might weigh 350 kg. at 18 months. intensity of growth in summer time depends greatly on weather conditions: cool and rainy weather is the best. During the third year of life, growth is much less intensive, and it is completed during the fourth year. The mature elk's weight fluctuates sometimes 20 percent, especially during the mating season (males 17 percent, 5 percent The authors recommend dofemales). mestication of the elk, with castration and selection the best means of increasing its live-weight. Copy seen: DLC.

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46018. KNOWLES, DAVID M. Geology and petrology of the Wabush Lake iron ore formation, Labrador. (Canadian mining journal, June 1956. v. 77, no. 6, p. 165.) Abstract of M. S. thesis, Michigan College of Mining and Technology, 1955.

The deposits at Wabush Lake (53°02′ N. 66°52′ W.) occur in an extensive series of meta-sediments which probably represent the southern and southwestern extension of the Labrador Trough. The iron formation is a slightly banded to massive rock, consisting almost entirely of glassy quartz and specular hematite with minor magnetite. Other minerals are noted, and formation of the iron deposits is described. *Copy seen:* DGS.

46019. KNOWLTON, FRANK HALL, 1860-1926. A revision of the genus Araucarioxylon of Kraus, with compiled descriptions and partial synonymy of the species. (U. S. National Museum. Proceedings, May 22, 1890. v. 12, no. 784, p. 601-617.)

Contains a discussion of the history and taxonomy of this genus of fossil plants and related genera (Cordailes and Dadoxylon). An annotated list of 50 species added; among them are A. heerii from Greenland, and A. latiporosum from Green Harbor, Spitsbergen.

Copy seen: DLC.

KNOWLTON, FRANK HALL, 1860-1926, see also Lesquereux, L. Recent determinations . . . fossil plants . . . 1888. No. 46322.

46020. KNUDSEN, ERIK HJORTEN-BERG. Et besøg på en grønlandsk boplads. (Grønland, June 1956, nr. 6, p. 235–39, illus.) Text in Danish. *Title* tr.: A visit to a Greenland settlement.

Recounts author's visit with two companions in February to the settlement Qennertuarssivit (Qernertuarssivit, 65°43′ N. 37°18′ W.) on the west side of the Angmagssalik Fjord in East Greenland. It has five houses, and 25 inhabitants; they are poor, as hunting and fishing in the area is not successful.

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46021. KNUDSEN, ERIK HJORTEN-BERG. Danmarkshavn i arbejde og fritid. (Grønland, Jan. 1956, nr. 1, p. 13–19, illus.) Text in Danish. *Title* tr.: Danmarkshavn at work and leisure.

Describes life at this Danish meteorological station (76°46′ N. 18°45′ W.) in East Greenland. Established by the International Civil Aviation Organization in 1948, it has personnel of 11 men.

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46022. KNUDSEN, ERIK HJORTEN-BERG. Konebådsrejser i Angmagssalikdistriktet. (Grønland, Sept. 1956, nr. 9, p. 341-50, illus.) Text in Danish. *Title tr.:* Journeys by umiak in the Angmagssalik District.

Describes two trips made by the author, accompanying Greenlanders in women's boats, the main one from Angmagssalik village (65°36′ N. 37°38′ W.) to Tinetequal in the Sermilik Fjord (65°37′ N. 38°03′ W.) East Greenland and back.

Copy seen: DLC.

46023. KNUDSEN, HELGE, 1897—. Et grønlandsk kommuneregnskab anno 1954/55. (Grønland, Sept. 1956, nr. 9, p. 321–33, illus.) Text in Danish. *Title tr.:* The accounts of a Greenland local authority in 1954/55.

Contains a financial report for Upernavik (72°47′ N. 56°12′ W., West Greenland) commune with 1,338 inhabitants at the end of 1954; comments are added to indicate work of local authorities in Greenland.

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46024. KNUDSEN, HELGE, 1897—. Den grønlandske husflid. (Atuagagdliutit: Grønlandsposten, Oct. 18, 25, 1956. Ukiut 96-iat, nr. 20, p. 16-17, 28, illus.; nr. 21, p. 12-14, illus.) Text in Danish

and Eskimo. Title tr.: Greenland handicraft.

Describes activities of the handicraft association at Upernavik (72°47′ N. 56°12′ W., West Greenland), founded in 1952, with the author as treasurer. It is on a cooperative basis; raw materials are provided free; tooth, bone and stone carvings, bags, necklaces, etc., are produced by the 60–70 members, who made some 50,000 Danish Kr. from sales in Greenland and Denmark during 1952–1955.

Copy seen: DLC.

46025. KNUTH, EIGIL, Greve, 1903- Danmark Fjord. (Fra Nationalmuseets arbejdsmark 1956, p. 71–78, illus.) Text in Danish. Title tr.: Danmark Fjord.

Contains an account of a visit by the author and one companion to Kap Holback in the interior of Danmark Fjord (81°30′-80°50′ N. 20°-25° W., North Greenland) in 1954 and an expedition to the same place with a different companion in 1955 to investigate Eskimo remains, found in 1907 during the Mylius-Erichsen expedition. These remains, 5-6 m. above sea level, belong to a paleo-Eskimo culture and are about 2,800 years old, about 1,000 years younger than the majority of paleo-Eskimo remains found by the author, 12-20 m. above sea level, in Pearyland (82°55' N. 32° W.) and on Prinsesse Ingeborg Halvø, 150 km. southeast of Pearyland. This latter culture has been named by him the Independence Culture (Independence Fjord, 82°10' N. 28° W.) and he now suggests the name Independence II for the younger culture. In 1955, remains of the older culture were found on the Kap Holbæk site as well. Corresponding finds have been made by Jørgen Meldgaard in arctic Canada.

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KNUTH, EIGIL, Greve, 1903—, see also Geografisk tidsskrift. Nationalmuseets etnografiske Samling 1955. 1956. No. 45064.

KNUTH, EIGIL, Greve, 1903-, see also Harp, E. Arctic, 2. 1956. No. 45446.

46026. KOARK, HANS J. Über Querfaltung, Bewegung // B, und Erzlagerung; mit Beispielen aus Malmberget-Gällivare. (Upsala. Universitet. Miletin, 1949/53. v. 34, p. 251-78, 6 illus., 7

diagrs.) 31 refs. Text in German. Summary in English. *Title tr.:* On transverse folding, movement parallel with B [perpendicular to schistosity], and ore deposition; with examples from Malmberget-Gällivare.

The nature and effect of major and minor componential movements in the ore bodies of northern Sweden are considered. Petrologic complexity of ore deposits and differences between them and the granites are tectonically analyzed.

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46027. KOBY, VICTOR. DEW Line revisited. (Canadian aviation, Apr. 1956. v. 29, no. 4, p. 34–36, illus.)

Several of the problems involved in supplying the DEW Line by air are described. The airlift moved 22,000 tons of supplies in one year. Landing strips were opened by Canadian bush pilots. Contractors associated with construction and supply operations are listed.

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**46028. KOBY, VICTOR.** SAC-CONAD. (Canadian aviation, Feb. 1956. v. 29, no. 2, p. 36-40, illus.)

Contains a popular account of the operation of the Strategic Air Command (SAC) and the Continental Air Defense (CONAD). The use of the Canadian radar chains and the Royal Canadian Air Force long-range intercepters for defense and that of the more than 1,500 long-range bombers of SAC for retaliation are described.

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46029. KOCH, BENT ESKE, 1926—. Geologiske og palaeontologiske undersøgelser i det sydøstlige Nugssuaq, Vestgrønland. (Dansk geologisk forening. Meddelelser, Jan. 1956. bd. 13, hefte 2, p. 129.) ref. Text in Danish. *Title tr.*: Geologie and paleontological investigations in southeastern Nugssuaq, West Greenland.

Resume of paper given at the Apr. 1955 meeting of the Danish Geological Society, based essentially on No. 40789, of Arctic Bibliography. Tertiary stratigraphy of the Atanikerdluk area, southeastern Nugssuaq peninsula (70°04′ W. 52°20′ W.), is briefly described, also the Tertiary fossil floras of the region. Brief discussion by A. Rosenkrantz is added.

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KOCH, BENT ESKE, 1926—, see also Troelsen, J. C., and others. Greenland. 1956. No. 48471. 46030. KOEFOED, EINAR, 1875— Eumicrotremus spinosus, subspec. nov. eggvinii (Norway. Fiskeridirektoratet. Skrifter, ser. havundersøkelser; Report on Norwegian fishery and marine investigations, 1956. v. 11, no. 5, p. 22–24, illus.) 15 refs.

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Description of a new form of fish, from the Eggvin Bank, west of Jan Mayen, with data on morphometry and anatomy and comparisons with related forms.

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46031. KOEFOED, EINAR, 1875—. Raia spinicauda, Jensen; the rough whiteray. (Norway. Fiskeridirektoratet. Skrifter, ser. havundersøkelser; Report on Norwegian fishery and marine investigations, 1956. v. 11, no. 5, p. 15–21, illus., tables, map.) 8 refs.

Contains information on earlier finds and records; distribution (European Arctic, East and West Greenland waters); size; morphology and morphometry;

anatomy; color; food, etc.

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46032. KOEFOED, EINAR, 1875-

Theragra finnmarchica n. sp., a fish caught off Berlevåg allied to the Alaskan pollack, Theragra chalcogramma Pallas from the Bering Sea. (Norway. Fiskeridirektoratet. Skrifter, ser. havundersøkelser; Report on Norwegian fishery and marine investigations 1956, v. 11, no. 5, p. 3–11, illus., tables.), 18 refs.

Description of two specimens landed at Berlevåg Finnmark, including morphology, morphometry and anatomy; comparisons with the Alaskan species;

geographic distribution, etc.

Copy seen: DI.

KÖHLER, HILDING. Beobachtungen über den Ionengehalt und das Potentialgefälle der Luft auf dem Pårtetjåkko vom 1. Juli 1914 bis zum 30. Juni 1916. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 2, Meteorologie und Geophysik, Abt. 1, Lfg. 1, pub. 1923. p. 39-76, illus., diagrs., graph, 2 plates, tables.) Text in German. Title tr: Observations on ion content and potential gradient of the atmosphere on the Pårtetjåkko.

Instruments and methods used for measuring ion content and potential gradient of the atmosphere are described, and precautions taken to protect the devices from rime, snow, and wind damages are discussed. Daily and annual values of periodicity are tabulated and graphed for the period 1914–1916. The effects of relative humidity, temperature, wind direction, and atmospheric pressure variations on the atmospheric electricity elements are discussed on the basis of tabulated data. The influence of fog, stratus clouds, and precipitation on the data observed is analyzed.

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46034. KÖHLER, HILDING. Meteorologische Beobachtungen auf dem Pårtetjåkko während des Beobachtungsjahres 1. Juli 1915 bis 30. Juni 1916. Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907-1939. Bd. 5, Arbeiten des Pårtetjåkko-Observatoriums, unter besonderer Leitung einer K. Kommission, Lfg. 3, pub. 1939. p. 211-319, Text in German. tables.) Title tr.: Meteorological observations on the Pårtetjåkko during the observation year July 1, 1915 to June 30, 1916.

Contains tabulated daily values for each month of atmospheric pressure, temperature, humidity, wind direction and speed, hydrometeors, sunshine duration, cloud types and movement, snow depth and density, and ground temperature. The data recorded at this mountain observatory (67°29′6″ N. 17°37′57″ E., altitude 1834 m.) are in sequence to No. 45403.

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46035. KÖHLER, HILDING. On evaporation from snow surfaces. (Arkiv för geofysik, 1950. bd. 1, nr. 8. p. 159-85, illus., 7 diagrs. 5 tables.) 8 refs.

Measurements of evaporation from a snow surface, made at Haldde observatory in northern Norway, 1918-25, are compared with theory. Sources of error and suitability of formulae are considered.

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46036. KÖHLER, HILDING. Studien über die Nebelfrostablagerungen auf dem Pårtetjåkko. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 2, Meteorologie und Geophysik, Abt. I, Lfg. 1, pub. 1923. p. 1–38, illus., diagrs., tables.) Text in German. Title tr.: Studies on ice deposits from fog on the Pårtetjåkko.

The results of systematic studies in 1915–16, at this Swedish observatory at 1830 m. elevation, on various rime deposits from fog, and meteorological factors influencing them are reported in detail, and the methods of measurement are described. Soft rime consists of featherlike or plate crystals accumulating on the windward side of objects and forms, independent of fog, at temperatures below -9.7° C. down to -25.5° C. by sublimation when the air is saturated with respect to ice. Hard rime occurs in the presence of fog at all temperatures below 0° C. in the form of white cones apically attached to substrate and has a fibrous structure and a granular internal appearance. It is caused by the freezing of supercooled water droplets and sublimation. Rime occurs generally at temperatures from 0° to -12° C., is amorphous, and consists of transparent or grayish, opaque ice. The effects of temperature, humidity, wind direction and speed, elevation, and insolation on the formation of rime deposits are examined individually, and data on the water equivalent of each deposit with varying wind directions and the length of the deposits are tabulated. Copy seen: CaMAI.

46037. KÖHLER, HILDING. Untersuchungen über die Wolkenbildung auf dem Pårtetjäkko im August 1928 nebst einer erweiterten Untersuchung der Tropfengruppen. (In: Hamberg, A. Naturwissenschaftliche Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd, 2 Meteorologie und Geophysik, Lfg. 2, pub. 1930. p. 77–128, illus., diagrs., tables.) 13 refs. Text in German. Title tr.: Investigations of cloud formation on the Pårtetjäkko in August 1928 and an expanded investigation of the droplet groups.

Experimental investigations of water droplet distribution in fog and results obtained are presented. Methods of measurement and installations are described. Droplet radii were calculated and the relationship between water content and droplet size was investigated. Physical problems related to droplet density and the formation of snow crystals are analyzed.

\*\*Copy seen: CaMAI.\*\*

46038. KÖPPEN, WLADIMIR PETER, 1846–1940. Versuch einer Klassifikation der Klimate, vorzugsweise nach ihren Beziehungen zur Pflanzenwelt. (Geographische Zeitschrift, 1900. v. 6, p. 593–611, 657–79, diagrs., tables.) Text in German. Title tr.: Attempt at a classification of climates, preferably according to their relationships to plant life.

Contains climatic classification by divi-

sion of plant life into five groups: A, megatherms (great heat: tropical vegetation); B, xerophiles (plants loving dryness: steppe plants); C, mesotherms (moderate heat: vegetation of sub-tropical regions); D, microtherms (little heat: vegetation of temperate zones); E, hekistotherms (hardly any heat: arctic flora). These five groups are further subdivided into 24. For group E there are four, with the names taken from the fauna, viz., the arctic fox, the penguin, the yak, and the chamois. The 24th, F, has eternal snow and no vegetation. The features of climate peculiar to each class are pointed out as characterized by the quantity and duration of precipitation and the general thermal conditions of the different seasons. Copy seen: DLC.

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46039. KÖRNINGH, JOHAN FERDINAND, c. 1626–1687. Berättelse om en missionsresa till Lappland 1659–69. Gebers, 1956. 68 p. (Stockholm. Nordiska museet. Acta lapponica, 9, no. 1.) Text in Swedish and Latin. Title tr.: Account of a missionary expedition to Lapland 1659–60.

Contains the Swedish translation and Latin text of a manuscript in the National Library, Vienna. This and another manuscript in Prague are copies of a lost original. The author, a Swedish nobleman, studied theology in Prague and Rome, became a Catholic convert, and subsequently traveled to Lapland to investigate possibilities for Catholic missionary work. He was received by the Swedish clergyman and expert in Lapp affairs, Johannes Tornaeus, and, without disclosing his religion, accompanied the latter on a journey in Lapland. Life among the Lapps, reindeer husbandry, music, etc., are described in detail. Copy seen: SPRI.

KÖVER, GYÖRGY, see Hársing, L., and others. Hypothermia hatása . . . 1956. No. 45458.

46040. KOÏNACHENOK, M. Osvaivat' novye ugod'íâ. (Okhota i okhotnich'e khozíaľstvo, Sept. 1956, no. 9, p. 5-6.) Text in Russian. *Title tr.:* Assimilation of new hunting areas.

Hunting is economically important in the Evenki National District and it should be extended into the less accessible parts of it; this involves setting up hunting stations in the remote areas, also equipping the hunters better and training them properly. **Copy seen:** DLC. KOIZUMI, KIYOMI, see Suda, I., and others. Effects of cooling . . . central nervous . . . responses. 1956. No. 48244.

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46041. KOJIMA, KENJI. An experimental study on regelation. (Teion-kagaku, Low temperature science, Sapporo, 1954, ser. A., no. 13, p. 29–36, illus., graphs, diagr.) 5 refs. Text in Japanese. Summary in English.

The experiments, made with an ice column 8 cm. in diameter, studied the cutting speeds of loaded wires and cords of different thermal properties (isotropic and anisotropic, good and poor con-Tests at room temperatures (18°-23° C.) showed that regelation is due to pressure melting and heat loss to the outside through the cutting material. Cutting is independent of heat conducted into the ice through the wire. Ten-hour loading of ice with a weighted (with 5 kg.) enameled Cu wire at temperatures slightly below 0° C. produced no cutting action, but when the temperature was raised above 0° C., the wire began to cut through the ice at a rate of 0.6 cm./hr. No plastic deformation was noted."-SIPRE. Copy seen: DLC.

46042. KOJIMA, KENJI. Viscous compression of natural snow layer, I. (Teion-kagaku, Low temperature science, Sapporo, 1955, ser. A, no. 14, p. 77–93, illus., graphs.) 8 refs. Text in Japanese. Summary in English.

"The viscous compression of a snow cover is analyzed mathematically on the basis of data collected in 1954-55 at Sapporo (Japan) on the thickness and density variations of individual snow layers during time intervals of 5-10 days. The viscous compression of the snow cover, as a function of time was determined by calculating the viscous compression of each layer, taking into account the thickness and daily increment in density of the given layer, the pressure exerted on it by the upper layers, and the weight of the layer itself. mean rate of compression of the snow cover was 10 gm./day sq. cm. during the first week, reaching about 104 gm./day sq. cm. after 2 months. The values for individual layers varied from 6.6-18 gm./ day sq. cm. Formulas for calculating each factor involved are presented, and results are graphed."-SIPRE.

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46043. KOKORINA, E. P. K analizu vlifanifa gormona shehitovidnof zhelezy na fiziko-khimicheskie svoľstva molochnogo zhira 2; vliianie temperatury vozdukha i fizicheskoI nagruzki na fizikokhimicheskie svolstva molochnogo zhira. (Akademifa nauk SSSR. Institut fiziologii im. I. P. Pavlova. Trudy 1955. t. 4. p. 123-31, illus., tables.) 15 refs. Text in Russian. Title tr: Analysis of the effect of thyroid hormone upon the physico-chemical properties of milk fat 2; the influence of air temperature and of physical load on physico-chemical properties of milk fat.

Account of investigations on cows kept at temperatures ranging from 15 to -5° C. Temperature showed a qualitative effect on the milk (butter) fat, cold causing a drop in iodine number of the fat and corresponding changes in its physico-chemical properties. The possible role of the thyroid in these changes is discussed.

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46044. KOLA, OLIVER VICTOR. Survey methods used on the Whittier tunnels: Portage-Whittier Railroad cutoff. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 20–21.)

Contains a brief synopsis and conclusions of paper dealing with survey methods used for establishing construction control of two adjacent railroad tunnels, one 13,086 ft. and the other 4,912 ft. in length. Ordinary instruments were used to establish satisfactory control in spite of poor weather and terrain. The error of closure varied from 1 in 23,000 for distance to a much higher accuracy for vertical control and alignment.

Copy seen: DGS.

46045. KOLESNIKOV, ARKADIĪ GEORGIEVICH, and V. I. BELĀEV. O kristallizatŝii pereokhlazhdennof vody, podverzhennof turbulentnomu peremeshivaniū. (Akademißa nauk SSSR. Doklady, Aug. 21, 1956. god 24, t. 109, no. 6, p. 1129–32, graph.) 6 refs. Text in Russian. Title tr: Crystallization of supercooled water under turbulent mixing.

"The development of crystallization in supercooled water is expressed mathematically on the basis of experimental data. Several hypotheses and simplifications were made to develop a system of differential equations by considering the number of ice crystals as equal to the difference between the rate of crystal

formation and the rate of deposition of new crystals on crystals already formed. Underwater ice observations showed that the crystals retain the form of thin discs so that heat losses for growing crystals in a turbulent flow approximate those of discoidal bodies. Water-temperature variations were considered only for large crystals because new-crystal deposition on preexisting crystals occurs rapidly. The ice crystal contents calculated by the formulas developed were close to the experimental data obtained by V.  $\widehat{\Lambda}$ . Al'tberg in 1939."—SIPRE.

Copy seen: DLC.

46046. KOLESNIKOV, B. P. Lesorastitel'noe raionirovanie Dal'nego Vostoka i voprosy lesovosstanovlenia i sozdania lesov zashchitnogo znachenia. (In: Akademia nauk SSSR. Institut lesov Voprosy razvitia lesnogo khozaistva . . . 1955, p. 46–68, 25 sketch maps.) 50 refs. Text in Russian. Title tr.: Regional planning of forestation of the Far East and problems of reforestation and growth of the forests for protective purposes.

The forestation of the Far East for future industrial reserves and for protection of water reservoirs and climatic conditions is described with consideration of its regional characteristics. Phytogeographic zoning of the forestation and general location of the forests are indicated on two sketch maps. Arctic tundra, Bering forest-tundra and other subdivisions are represented on the basis of their tree types. Copy seen: DLC.

**KOLLERUD, O.,** see ICAO. Ice . . . runways. 1955. No. 45701.

46047. KOLLOEN, LAWRENCE N., 1907— Aerial surveys of herring spawning grounds in Alaska. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub.* 1956, p. 90.)

Summary on surveys of 3,000 miles of beaches in British Columbia and 5,000 miles in Southeast Alaska. Detection of spawning, the areas, and advantages and disadvantages of the aerial method are also discussed.

\*\*Copy seen:\*\* DGS.\*\*

46048. KOLOBAEV, M. Komsomole's Aleksef Ta'boref. (Molodo' kolkhoznik. Dec. 1956. god 23, no. 12, inside page of cover, illus.) Text in Russian. *Title tr.:* A young communist, Aleksef Ta'boref.

Note (with photo.) on this successful Samoyed hunter in the Nenetskiy National District. Copy seen: DLC. 46049. KOLOMIETS, N. G., and G. V. KRYLOV. Vesennie polovod'fâ i vspyshki sibirskogo shelkoprfâda v zapadnof Sibiri. (Lesnoe khozíálstvo, Dec. 1956. god 9, no. 12, p. 45–47.) Text in Russian. Title tr.: Spring floods and Siberian eggar breeding, in Western Siberia.

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Study of the breeding and spread of this pine moth during 1921–1955 is described, with attention to the stimulating causes and to the density of population. Extensive damage was observed mainly to coniferous forests (fir and cedar) in the Chulym, Ket', Chet', Tom River regions and in western Altay. Low spring water, dry summer and small precipitation (snow and rain) create conditions favorable for breeding. Measured density of worms/sq. m. of area serves as guide to concentration for local extermination.

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46050. KOLPAKOV, V. G. "Samootapliva@shchies@" goroda. (Znanie-sila, June 1956, no. 6, p. 21–22, illus.) Text in Russian. *Title tr.*: "Self-heating" towns.

Popular discussion of utilizating heat from the earth's interior for domestic purposes; the health resort Talaya, on the upper Kolyma is cited: all its heat is supplied from a hot spring with 92° C. water.

\*\*Copy seen: DLC.\*\*

46051. KOL'SKAÑ, L. Kedr na Kol'skom poluostrove. (Ogonëk, June 1956. god 34, no. 23, p. 32, illus.) Text in Russian. *Title tr.:* Cedar on Kola Peninsula.

Note on a 23-yr. old pine, the so-called Siberian cedar, flourishing on an island in Lake Notozero; the find indicates the possibility of cultivating this valuable tree in Kola Peninsula.

Copy seen: DLC.

KOLSRUD, OLUF, see Gjessing, G. Traen-funnene. 1943. No. 45139.

46052. KOLYCHEVA, E. I. Nentsy evropeïskoĭ Rossii v kontse xvii – nachale xviii veka. (Sovetskaß etnografiß, 1956, no. 2, p. 76–88, table, diagr.) 82 refs. Text in Russian. Title tr.: The Nenets of European Russia from the late 17th to the early 18th century.

Account, based on contemporary Russian sources, of the tundra, or Pustozersk, and the forest, or Izhma and Ust'-Tsil'ma Nenets, Samoyed groups, so-named for the trading posts where they paid tribute (in furs) and which they occasionally

raided. Movements of clans and families of these groups in the Bol'shezemel'skaya Tundra and south to the Usa and Pechora basins, also main routes of other Nenets are traced. Their economic activities, marriage habits (endogamous), changes of clan affiliation are described. Statistical data given on population and reindeer herds, etc. Their essentially hunting-andfishing economy of the 17th century changed to reindeer herding in the 18th. Sealing and walrus hunting, introduced by the Russians, started in the late 17th century. The Nenets' russification and progressive economic and political dependence upon Russia are stressed.

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46053. KOMARENKO, L. E. Kharakteristika flory vodorosleľ i zooplanktona vodoemov basselna srednego techenia r. (Akademifa nauk SSSR. Leny. skii filial, Yakutsk, Institut biologii. Trudy, 1956. vyp. 2, p. 145-212, illus., tables) 21 refs. Text in Russian. Title tr.: Characteristics of the algal flora and zooplankton from the waters of the middle Lena River basin.

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A study of these plants and animals in the Lena, its tributaries and lakes, based on material collected during the Yakutsk Branch of the Academy of Sciences' ichthyological survey of 1948-51. Qualitative and quantitative aspects, seasonal fluctuations, local variations in composition, etc., were investigated at numerous stations. Appendices contain systematic list of the forms (some 521 in 14 groups) found in the area studied; and their occurrence in the stomachs of fish studied. F. E. Karantonis and others, q. v., reported on the fishes.

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46054. KOMARETSKAIA, O. A. loparskogo ėposa. (Murmanskoe obshchestvo kraevedenifa. Doklady i soobshchenia, 1927. vyp. 1, p. 39-43.) Text in Russian. Title tr.: From the Lapp epos.

The writer collected statistical data on the Lapp population of western Lapland, in winter 1926-27, in the area of Lakes Imandra and Notozero and the Girvas, Lota, Tuloma and Kola Rivers. Incidentally, she studied the folklore and collected tales about the seldy, spirits believed to live among the rocks and stones of lakes, who were helpful to the Lapps in their fishery, etc., but when annoyed, e. g. by noise, turned men into stones. Belief in seldy, evidently connected with sorcery and shamanism, was current only among the old people. Some 14 stories about these spirits and their intervention in human affairs as recorded by the author, are attached (p. 40-43).

Copy seen: SPRI; DLC (microfilm).

KOMAROV, A. A., and V. B. LÍAKHOVICH. Lesonasazhdeniía, nadezhnoe sredstvo zashchity puti ot (Zheleznodorozhnyl transport, June 1956. god 37, no. 6, p. 65-70, illus., graphs.) Text in Russian. Title tr.: Forest shelter belts, a positive means of snowdrift control on railways.

Shelterbelt protection of railways against snowdrift is discussed on the basis of theory, experimental investigations, and observational data collected in the U. S. S. R. during the last few decades. Experimental arrangements in Western Siberia (parallel belts of different width and density, and with different distances between them) showed that narrow belts of moderate density cut wind speeds in These belts provided protection half. from wind for a distance equal to 17-20 times tree height. Several narrow 5-yr.old shelterbelts provided complete protection from drifting.—From SIPRE.

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KOMAROV, A. G. K voprosu ob ostatochnol namagnichennosti gornykh porod v svíazi s ikh vozrastom. (Akademis nauk SSSR. Doklady. Sept. 11, 1956. t. 110, no. 2, p. 260-63, 5 tables.) Text in Russian. Title tr.: A 11 refs. contribution to the problem of residual magnetization of rocks in connection with

their geological age.

Based in part on investigation of rocks of the Polar and sub-Polar Urals. Rocks closely allied by their petrological characteristics are found to have different magnetic properties, but magnetic characteristics of very different rocks of the same geological age are identical. The ratio of residual and inductive magnetization and the absolute magnetization of closely related rocks vary in inverse proportion to their age. The ratio of residual and inductive magnetization of rocks of the same age is identical even in different mountains (Urals and Sayan Mts.). The alkalinity and ferro-magnetic mineral content of the rocks affect their magnetic susceptibility but their ratio of residual and inductive magnetization is determined chiefly by their geological age.

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46057. KOMKOV, A. M. ÎU. M. Shokal'skif. (Geodeziâ i kartografiâ, Dec. 1956. no. 10, p. 45–49, port.) Text in Russian.

Biographical sketch of Wii Mikhallovich Shokal'skii, 1856–1940, occasioned by the centenary of his birth. His geodetic and cartographic work is emphasized (p. 47–48). Copy seen: DLC.

46058. KOMLEV, L. V. Radiologicheskie issledovaniâ v Khibinskikh tundrakh. (*In*: Khibinskie apatity, 1933. t. 6, p. 135–39, table.) Text in Russian. *Title tr.*: Radiological investigation in

the Khibiny tundras.

Basic radiological investigation of khibinite is systematically reviewed for study of: roles and laws for distribution of radioactive elements in the earth's core; extension of the law of crystallo-chemistry on dispersion of typical elements; precise determination of the radiological characteristics of minerals of the masandriterinkolite and lovehorrite group in connection with their mining and re-processing to rare earths. Radiometric determination of such elements as thorium, uranium, radium is described in detail and their content in 25 Khibiny minerals is tabulated (p. 137-138). Discussion is added of the paper, also of No. 43493. Copy seen: DGS.

46059. KOMSHILOV, Ā. A. Loparskie klelma. (Murmanskoe obshchestvo kraevedeniā. Doklady i soobshcheniā, 1927. vyp. 1, p. 46–49, 12 plates.) 2 refs. Text in Russian. *Title tr.*:

Lapps' marks.

Summary of author's paper delivered to the Society Dec. 5, 1926, based on his studies and collection of over 3,000 Lapps' marks. The marks indicate the owner's first name, father's name, family name and village, and they pass from father to children with some ramifications or simplifications of design. They were used till the end of the 19th century in lieu of signature and for branding utensils and implements, but not reindeer. The evolution of marks and their legal and economic significance are discussed; 350 examples, all from the second half of the 19th century, are illustrated; and the evolution demonstrated on plate 12. The literature on Lapps' marks (2 items) and other, smaller, collections are mentioned, and the need of further investigation is stressed.

Copy seen: SPRI; DLC (microfilm).

46060. KONCHAEV, V., and F. NIKI-FOROV. Gruzovoĭ teplokhod "Arkhangel'sk." (Morskof flot, Feb. 1956. t. 16, no. 2, p. 15–17, illus.) Text in Russian. Title tr.: Cargo diesel ship Arkhangel'sk.

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Describes (with cross-section, deck plan, etc.) motor-ship specially reinforced for arctic service. It is 139.4 m. in length with seven watertight bulkheads, 17.6 m. wide and 7.85 m. draft with full load. Powered by seven-cylinder MAN diesel engine, it develops 6390 hp. at 115 rpm for speed 17.39 knots. The British Lloyd classification is given as the ice class 1. A (for navigation among ice). Other arrangements, machinery equipments and crew accommodation, etc., are specified. Copy seen: DLC.

46061. KONDORSKIĬ, E. I., and others. K teorii spontannol namagnichennosti ferromagnitnykh poluprovodnikov v oblasti nizkikh temperatur. (Akademiâ nauk SSSR. Doklady, Aug. 11, 1956. t. 109, no. 5, p. 931–34.) 10 refs. Text in Russian. Other authors: A. S. Pakhomov and T. Shiklosh. Title tr.: Theory of the spontaneous magnetization of ferromagnetic semi-conductors in the region

of low temperatures.

Quasi-classical theories on the diffraction of neutrons in ferrites and their alloys are discussed. Authors' formula for the relation between spontaneous magnetization and low temperature differed from those of N. Kaplan and S. V. Vonsovskil at their low temperatures. In analysis of this discrepancy, the method used in the theory of ferromagnetism of metals and alloys is applied with consideration of the quantum theory. A set of integral equations is presented for general formulation of magnetization in the zone of low excitation conditions of the energy spectrum system. A new relationship between spontaneous magnetization of ferrite and temperature can be more precisely formulated by statistical-thermodynamic computation and use of low values of wave number (k), corresponding to low temperatures. Copy seen: DLC.

46062. KONDRATENKO, A. I. Kol'tsevanie pushnykh zverel po metodu Aleksandrova. (Rafsionalizatsifa okhotnieh'ego promysla, 1956. vyp. 5, p. 118–20, illus.) Text in Russian. *Title tr.*: Aleksandrov's method of tagging fur-bearers.

Describes and illustrates device constructed by N. A. Aleksandrov for attaching aluminum rings to the ears of fur animals. Its successful use in tagging beavers is mentioned. The importance of tagging and banding for study of wildlife is stressed. **Copy seen:** DLC.

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46063. KONDRAT'EV, V. I. Geofizicheskie metody razvedki medno-nikkelevykh rud rafona Moncha-tundry. (In: Khibinskie apatity, 1933. t. 6, p: 175–76.) Text in Russian. Title tr.: Methods of geophysical prospecting for copper-nickel ores in the Moncha Tundra region.

Two electrical prospecting methods used are described; anomalies indicated were verified. Geologically all anomalies of this region are of three types: those related to distribution of ultra-basic rocks, anomalies related to contact of basic rocks with gneisses, and those in the region of gneiss distribution. Cause of the anomaly is not always indicated by surface mining; wells drilled to 50 m. depth are more reliable.

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KONDRIKOV, V. I., see Khibinskie apatity . . . 1933. No. 45959.

46064. KONSOVSKIĬ, G. Noril'sk. (Smena, July 1956. god 33, no. 13, p. 3, illus.) Text in Russian.

Notes development of this new center of non-ferrous metallurgy in the far North; photographs show houses and landscape.

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46065. KONSTANTINOV, K. G. O promysle pikshi v Barentsovom more. (Rybnoe khozfatstvo, June 1956. god 32, no. 6, p. 31–34, illus., table.) Text in Russian. *Title tr.:* The haddock industry in the Barents Sea.

Contains information on the sharp fluctuations of catches in this area and its causes. Favorable years and catches in the Kolguyev waters are noted. Comparisons are made with cod and cod catches of this region, also in canned products price, markets, etc.

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46066. KONSTANTINOVA, A. M. Preobrazovanie dikorastushchikh form mnogoletnikh trav v vysokourozhaïnye sorta. (Agrobiologiâ, July—Aug. 1956, no. 4 (100), p. 31–39, 10 tables.) Text in Russian. *Title tr.:* Transforming wild forms of perennial grasses into highly productive varieties.

Attempts of hybridization of the northern wild lucerne (alfalfa) made by the author since 1937, are reviewed.

N. Kh. Sagitov's experiments with hybrids of Yakut—and Angara wild lucerne, at Yakut State Agricultural Station in 1949, are mentioned.

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46067. KONSTANTOV, S. V. K voprosu obrabotki materialov o zheleznykh rudakh Kol'skogo fiorda. (*In:* Khibinskie apatity, 1933. t. 6, p. 189–92, table.) Text in Russian. *Title tr.:* Problem of preparing data on the iron ores of Kola Fiord.

Prospecting for iron ore deposits proposed for 1932 was only partly (25 percent) carried out in 1933, due to lack of funds. An iron ore deposit and ore bodies with average iron content of 32-38 percent are reported. *Copy seen:* DGS,

46068. KONSTANTOV, S. V., and I. I. SOBOLEV. Pirrotinovye mestorozhdeniâ fûgo-zapadnof chasti Khibinskikh tundr. (In: Khibinskie apatity, 1933. t. 6, p. 70–86, map.) Text in Russian. Title tr.: Pyrrhotite deposits in the southwest part of Khibiny.

Studies of pyrrhotite and pyrite deposits are described, as well as petrographic characteristics of the associated strata. Broad geological studies with electric prospecting methods were conducted in 1930–33. The results are plotted on a regional map of the Khibiny and described in detail; for the eastern and western parts of the tundra. General geological characteristics and evaluation of the deposits' capacity are summarized. Comments by others are added.

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46069. KONTKANEN, PAAVO. Über die Platycerus—Arten (Col., Lucanidae) Finnlands. (Suomen hyönteistieteellinen aikakauskirja, 1956. v. 22, no. 3, p. 133-36, 3 illus.) 5 refs. Text in German. Title tr.: On Platycerus species (Col., Lucanidae) of Finland.

Contains critical notes on five of these stag beetles, among them: P. caprea spreading to Kannanlahti, approx. 67° N. in Finnish Lapland.

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46070. KONTKANEN, PAAVO. Zur Kenntnis der paläarktischen Käferfauns, I. (Suomen hyönteistieteellinen aikauskirja, 1956. v. 22, no. 2, p. 55–63.) 12 refs. Text in German. Titte tr.: A contribution to the knowledge of the palaearctic coleopter fauna, I.

Contains critical notes on seven beetles

from various regions, four described as new. Silis jakutica from the Lena River basin and S. pallida from Alaska, are discussed. A list of 37 species with localities is appended, including Silis ruficollis in the Lena valley, Phalerometa humeralis and P. subhumeralis, both from Kamchatka Peninsula, though the locality of the latter is somewhat doubtful, and Aegilia kamtschatica from Dudinka, on the lower Yenisey River.

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46071. KONTRIMAVICHUS, V. L., and M. V. POPOV. Dinamika zarazhennosti gel'mintami i latentnye gel'mintozy zattsa-belfaka fakutii. (Moskva. Moskovaskii gosudarstvennyi pedagogicheskii institut im. V. I. Lenina. Uchenye zapiski, 1956. t. 96, vyp. 6, p. 87–126, illus. tables.) 47 refs. Text in Russian. Title tr.: Dynamics of helminth infection and latent helminthiases of the snowshoe hare in Yakutia.

A study based on examinations of nearly 1,200 animals. Nine species belonging to the classes of nematodes, cestodes and trematodes are dealt with and their occurrence in the examined material discussed and tabulated. Seasonal variations in infection rate and in incidence of helmintoses are considered as well as the effect of age and sex on degree of infection. Other factors influencing infectivity, such as population density and ecological conditions, are also analyzed. A discussion on the role of helmintoses in population fluctuations concludes the account. Copy seen: DLC.

46072. KONTUNIEMI, TAHVO PAAVALI. Beobachtungen über die Verbreitung und die Nahrungspflanzen der Sägewespen; Hym., Symphyta. (Suomen hyönteistieteellinen aikakauskirja, 1947. v. 13, no. 4, p. 180-81.) Text in German. Title tr.: Observations on the distribution and host plants of saw flies; Hym., Symphyta.

Lists 30 Finnish species; among them Pamphilius albopictus from the Petsamo region, Praia taczanowskii living on birch (Betula) around Utsjoki in the Inari region, and Tenthredo trabeata, native to the Kemi region of Finnish Lapland.

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46073. KONTUNIEMI, TAHVO PAAVALI. Zur Kenntniss des Lebenszyklus der Sägewespen. (Hymenoptera-Symphyta) in Finnland. Helsinki, 1951. 92 p. illus., tables, map. (Acta entomologica fennica, no. 1.) 73 refs. Text in German. Summary in Finnish. *Title tr.:* To the knowledge of the life cycle of the sawfiles (Hymenoptera, Symphyta) in Finland.

Seventeen species are treated in turn, three new to science and at least one known to occur in arctic Finland. Flight period, number of generations, food, egg deposition and incubation, further development and its stages are reviewed. The occurrence of arrhenotoky, of mono, oligo and polyphagy, as well as conditions of oviposition, metamorphosis, cessation of feeding, etc., are discussed in a comparative and general analysis. The value of studying early developmental stages for taxonomy is stressed.

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46074. KOPALEĬSHVILI, GRIGORIĬ TROFIMOVICH. Speîsial'nye sooruzheniâ na gornykh dorogakh. Moskva, Nauchno-tekhnicheskoe izd-vo avtotransportnoI lit-ry, 1956. 31 p. illus., diagr. 4 refs. Text in Russian. Title tr.: Special construction on mountain roads.

Describes devices to protect roads against washout and snow drifts, avalanches, etc., with illus.: temporary shields, forestation (if feasible), permanent galleries, semi-permanent sheds, stone walls, etc.

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46075. KOPALEĬSHVILI, GRIGORIĬ TROFIMOVICH, and M. I. BISSEĬ-SHVILI. Zimnee soderzhanie vysokogornykh dorog. (Avtomobil'nye dorogi, Sept. 1956. god 19, no. 9 (167), p. 16–17, illus.) Text in Russian. *Title tr.:* Winter maintenance of high mountain roads.

Winter conditions on the Georgian Military Road are described, and the problem of snowdrifts and avalanche control on high-mountain roads is discussed on the basis of trafficability studies in the winter of 1955-56. Snow averaging 1.5-2 m. in depth usually covers the lower stretches (below 1 km.) of the Road, Dec.-Mar. Forest shelterbelts and snow fences in conjunction with power equipment can keep it open for traffic at elevations below 1 km., but at higher elevation large snow avalanches require special structures.—From SIPRE. Copy seen: DLC.

46076. KOPONEN, J. S. W., d. 1948. Neue oder wenig bekannte Plecoptera. (Suomen hyönteistieteellinen aikakauskirja, 1949. v. 15, no. 1, p. 1–21, 18 illus.) Text in German. Title tr.: New or little

known Plecoptera.

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Contains descriptions of 19 species of stone flies from various regions, chiefly Siberia, nine new. Nemoura (s. str.) arctica and Capnia sparre-schneideri, both from Dudinka on the lower Yenisey, are included. A posthumous work edited by Per Brink.

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KOPPERS, WILHELM, 1886–, see Schmidt, W. Der Ursprung der Gottesidee . . . 1954. No. 47836.

46077. KOPYTOV, S. D. Tralovyi lov ryby v Severnom basselne; v porladke obsuzhdenia stat'i B. S. Kisova. (Rybnoe khozlastvo, Jan. 1956. god 32, p. 22-24.) Text in Russian. *Title tr.*: Trawl fishing in the Arctic Basin; a discussion of the article by B. S. Kisov.

Critique of a paper on the development of trawling in the Barents Sea (Arctic Bibliography No. 40754), with dissenting opinions on the type of fishing vessels suitable for this area, details of their equipment and parts, on fishing radius from the harbor, location, and fishing techniques, etc. Copy seen: DLC.

46078. KORDÉ, N. V. Tipología sapropelevykh otlozhenií. (Akademiía navuk BSSR, *Minsk*. Instytut torfa. Trudy, 1954. t. 3, p. 95–108, tables.) 25 refs. Text in Russian. *Title tr.:* Typology of the sapropelic deposits.

Classification of lacustrine sapropelic deposits is proposed according to a definite typological scheme, for use of technologists, geologists, hydrobiologists and others dealing with peat and fuels. The present classifications of G. Potenier and G. Lundqvist are reviewed and a substitute is offered on the basis of chemical and biological analyses of many deposits. A new definition for sapropel is given based on analyses of the present and subfossil thin structural deposits found in continental water basins. The deposits should contain non-organic components of biological origin in appreciable quantity and admixture of a terrigenous character. Copy seen: DLC.

46079. KORDECKI, ROMAN. Wplyw oziębiania na czynność oddechową. (Acta physiologica Polonica, 1956. v. 6, fasc. 1, p. 45–50, illus.) 5 refs. Text in Polish. Summary in English. *Title tr.:* The effect of cooling on respiratory function.

Account of observations on hypothermic cats with and without the vagus

nerves in the neck dissected. Depth and frequency of respiration and its deficiency were studied in relation to body temperature; also the causes of death and the effect of vagotomy in delaying respiratory disturbances.

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KORENEY, B. G., see Gol'denblat, I. I., and others. O snegovykh nagruzkakh . . . 1956. No. 45159.

46080. KORENEVA, E. V. Izuchenie sovremennykh morskikh otlozhenii metodom sporovo-pyl'fsevogo analiza. (Akademiâ nauk SSSR. Institut okeanologii. Trudy, 1955. t. 13, p. 23–29, illus., map.) 5 refs. Text in Russian. *Title tr.:* Study of present marine deposits by the method of spore-pollen analysis.

After an introduction on the discovery of the method and its utilization abroad and in the Soviet Union, the author presents results of investigations of the deposits in the Sea of Okhotsk. Pollen of five species (fir, spruce, cedar, birch and alder) was studied and a quantitative distribution map worked out. Pollen quantities in the air were also determined.

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46081. KOREPOV, M. I. Neotlozhnye zadachi stroitel'stva lespromkhozov. (Lesnafa promyshlennost', Feb. 1954. god 14, no. 2, p. 11–16, illus.) Text in Russian. *Title tr.:* Urgent problems in lumber industry construction.

New rapid methods of construction are described for a narrow gauge railroad and for housing in lumber camps, in view of inefficient methods used during 1949-52 in the Arkhangel'sk region.

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KORFF, SERGE ALEXANDER, 1906—, see Neuburg, H. A. C., and others. High-altitude cosmic ray... geomagnetic pole. 1955. No. 46991.

46082. KORHONEN, VILLE VIHTORI, 1885- . Ein neues Verfahren bei der Korrektion der Schneemessungen. Helsinki, 1944. 15 p. (Suomalainen tiedeakatemia, Toimituksia, Sarja A-I, Mathematica-Physica, no. 24.) 5 refs. Text in German. Title tr.: A new method for the correction of snow measurement.

Precipitation in Finland is 30-40 percent in form of snow; it should be measurable more precisely than is possible in the standard container. Experimentation is described and the conclusion reached that a correction factor for each station be established. Several arctic stations are included in the study.

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46083. KORHONEN, VILLE VIHTORI, 1885—. Die Verteilung der Niederschläge, besonders der Schneefälle auf die verschiedenen Windrichtungen in Finnland. Helsinki, 1942. 53 p., 18 diagrs., 6 tables (Suomalainen tiedeakatemia. Toimituksia. Sarja A-I, Mathematica-physica, no. 13.) 7 refs. Text in German. Title tr.: The distribution of precipitation, especially snowfall, according to the different wind directions in Finland.

Relationships between precipitation and wind direction in Finland are considered, on the basis of records from, among others, several stations in the arctic region. Wind direction, amplitude, and seasonal changes, and relationships to sea and land distribution are compared

in text, tables, and diagrams.

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46084. KORNEVA, LÍUDMILA ALEK-SEEVNA. O nesimmetrichno! otnosite!'no zemno! osi chasti geomagnitnogo polía v ra!onakh Arktiki i Mirovogo okeana. (Akademi@ nauk SSSR. Doklady, Apr. 1956. t. 107, no. 5, p. 679-82, 2 maps.) 6 refs. Text in Russian. *Title tr.:* The part of the geomagnetic field non-symmetrical to the earth's axis in the arctic and oceanic regions.

English translation by E. R. Hope pub. by Canadian Defence Research Board, Ottawa, June 1957 in its T247R: Geomagnetic effects of oceanic and monsoon path electric circulations, four papers by V. V. Shulelkin and L. A. Korneva,

p. 12-15. Copy at CaMAI.

An attempt is made to represent and explain the large anomalous geomagnetic field of the earth. A vector chart of the current-equivalent of the anomalous field in the Arctic is given. An analysis of this chart indicates that there is no new closed region in the Arctic with maximal values of the east component, and no marked concentrations of current density are evident.

\*\*Copy seen: DLC.\*\*

KORNEVA, LÍUDMILA ALEKSEEVNA, see also Golubev, G. Tok v okeane. 1956. No. 45172.

KOROLEFF, FOLKE, see Fonselius, S., and others. Carbon dioxide variations . . . 1956. No. 44934.

46085. KOROLEV, ALEKSANDR ALEKSANDROVICH. Stroitel'stvo kanalov v slozhnykh geologicheskikh uslovińskh. (In his: Kanaly gidroelektricheskikh stantsil. Moskva, 1956, p. 64-73, illus., diagrs.) 6 refs. Text in Russian. Title tr.: Construction of canals under complicated geological conditions.

Reinforced construction is described, with detailed drawings, for various types of unstable ground such as: quicksand, sliding lands, heaving and other ground.

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46086. KOROLEV, ALEKSANDR ALEKSANDROVICH. Zimniĭ rezhim kanalov. (In his: Kanaly gidroèlektricheskikh stantsif. Moskva, 1956. p. 95–103, table, diagr.) 3 refs. Text in Russian. Title tr.: The winter regime of canals.

Appearance of underwater ice and sludge is discussed with mathematical formulation of thermal conditions for their formation and disintegration. Thickness of ice cover and rate of the sludge flow are related to water temperature and physical characteristics of canal passage.

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KOROLEV, G. G., see Medvedev, V. M., and others. Povyshenie morozostolkosti . . . betona . . . 1956. No. 46683.

**46087. KOROTEEV, N.** Byl' o fâkutskikh almazakh. (Vokrug sveta, Oct.-Dec. 1956. no. 10, p. 1-6; no. 11, p. 17-21; no. 12, p. 27-32, illus., col. plate.) Text in Russian. *Title tr.:* The story of diamonds in Yakutia.

Recounts the work over many years of Soviet scientists and prospectors aiming to discover diamantiferous rocks in the plateau of northwestern Yakutia. Theoretical considerations based on similarity of its geological structure to that of Southern Rhodesia are indicated, also the searches by parties of the local Amakinskafa Expedition, the Central Expedition (TSentral'nafa ékspeditsifa), and those of the All-Union Geological Institute and the Scientific Research Institute of Geology of the Arctic (Nauchno-issledovatel'skil institut geologii Arktiki, NIIGA). In exploration of the Markha River basin (left tributary of the Vilyuy) garnets were found, which proved to be pyropes, similar to those in Southern Rhodesia. Exploration in the upper reaches of the Markha by L. A. Popugaeva in 1954 resulted in

discovery of the first diamond-bearing funnel or pipe (trubka) of kimberlite blue ground. In a systematic multiparty search in 1955, several patches of kimberlite were discovered near and above the Arctic Circle, at Udachnaya, Osennyaya, Mirnyy, etc. Camps are set up for open-pit mining, and various methods of extraction are used, with a rich yield of diamonds. Difficulties are encountered in supplying the camps due to lack of roads and adverse climate. The importance of the find to Soviet industry is noted.

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KOROTKEVICH. E. S., see Gorodkov, B. N. Rastitel'nost' . . . Kotel'nogo . . . 1956. No. 45192.

KOROTKEVICH, E. S., see also Grichuk, V. P., and R. V. Fedorova. K voprosu o kharakteristike prilednikovol rastitel'nosti . . . 1956. No. 45290.

KOROTKOV, S. N., see Moskvin, V. M., and S. N. Korotkov. O primenenii bystrotverdeûshchego betona . . . 1956. No. 46869.

KOROTKOV, S. N., see also Sizov, V. N., and S. N. Korotkov. Bystro tverdeû-shchie v zimnikh usloviíakh betony . . . 1956. No. 48030.

46088. KOROVIN, M. K. O Chulymo-Eniseľskoľ vpadine i ee perspektivakh. (Akademiía nauk SSSR. Laboratoriía geologii uglía. Trudy, 1956. vyp. 6, Materialy vtorogo ugoľnogo geologicheskogo soveshchaniía, p. 554–57, maps.) Text in Russian. Title tr: Chulym-Yenisey depression and its prospects.

Discusses geotectonic indicators of possibilities of coal deposits in an area comprising the western part of the Yenisey basin and that of the Chulym River, a right tributary of Ob' (57°03' N. 87°12' E.).

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voprosu o vybore silovoĭ ustanovki dla rybolovnogo traulera. (Sudostroenie, Nov. 1956. god 22, no. 11, p. 22-24, diagrs.) Text in Russian. *Title tr:* Choice of engine for the fishing trawler.

Summary of author's thesis based on study of the Murmansk fishing fleet trawlers at work. Almost half the trawler's sailing time is dragging the trawl at low speed, utilizing only a part of the engine power, which raises considerably cost/mile. Installation of two engines, and use of one at full capacity in dragging operations, is suggested. Engine types and capacity are noted in vessels of the Murmansk fishing fleet, including the trawlers of the *Pushkin* type.

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46090. KORUNOV, M. M. O gruzopod''emnosti ledianogo pokrova pri transportirovke lesa. (Lesnaia promyshlennost', Nov. 1956. god 34, no. 11, p. 18–19, tables.) 2 refs. Text in Russian. *Title* tr: Bearing capacity of ice cover in lumber transportation.

"Ice-thickness requirements for safe ice crossings are discussed, and computational formulas are given. Data on the bearing capacity of ice covers, and variations with ice structure are tabulated and used to determine correction factors. Several examples of the calculation of the deformation of ice covers under load are given. Data on safe thicknesses of crystalline ice covers for crossings by 5- to 15-ton motor vehicles are tabulated. Recommendations are given for ice-cover protection in early spring, for crossings by lines of vehicles, and for crossings of fissured ice covers."-SIPRE. Copy seen: DLC.

46091. KORYTIN, S. A. Primenenie snotvornykh veshchestv di@ otlova dikikh zhivotnykh. (Rafsionalizafsi@ okhotnich'ego promysla, 1956. vyp. 5, p. 23-41, illus., tables.) Text in Russian. *Title tr:* Use of soporifics in catching wild animals.

Account of experiments carried out by a group of students of the Fur Farming and Hunting Department of the Moscow Fur-Peltry Institute, headed by the author. Various doses of eleven soporifics (Nembutal, Luminal, Veronal, etc.) and combinations of them were used on silver and blue foxes, wolves, dogs and other animals, also birds. Data of the effects are tabulated, and the use of these drugs in the capture or killing of animals is discussed. They are being widely used on an experimental basis in hunting and trapping at present time in the U.S.S.R., according to editor's note (p. 23). Copy seen: DLC.

46092. KOSIKOV, S. I. Prichiny pofavlenifa ledfanoľ plenki na reľsakh i vozmozhnye mery bor'by s net. (Zheleznodorozhnyľ transport, Feb. 1956. god 37, no. 2, p. 68-70, illus., graphs.) Text in Russian. *Title tr.:* The origin

of ice crust on rails and possible counter measures.

"Meteorological conditions affecting the appearance of an ice crust on the rails are analyzed in detail. The crust varies in structure from fine crystals similar to hoarfrost to layers of dense ice. Wooden cross-ties which insulate the rails from the road bed cause greater cooling and subsequent sublimation of water vapor. Heating of the rails or replacing the wooden cross-ties with metal ones are considered as possible countermeasures."—SIPRE.

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46093. KOSINSKAÍA, EKATERINA KONSTANTINOVNA, 1900- . K flore presnovodnykh vodorosleľ Novosibirskikh ostrovov. (Akademifa nauk SSSR. Botanicheskil institut. Trudy, ser. 2, Sporovye rastenifa, 1956. vyp. 10, Text in p. 5-32, 4 plates.) 5 refs. Title tr.: On the flora of Russian. fresh-water algae of the New Siberian Islands.

Contains data on habitats of 57 samples of fresh-water algae collected by B. N. Gorodkov and E. S. Korotkevich in 1947 on Kotel'nyy Island. A systematic annotated list follows of 141 forms, with brief descriptions, measurements and notes on frequency. Copy seen: DLC.

46094. KOSITSKIÍ, G. I. Znachenie posledovateľnosti delstviía razdrazhiteleľ v razvitii patologicheskikh professov; éksperimentaľnoe issledovanie. (Arkhiv patologii, 1956. t. 18, no. 1, p. 15-21.) 16 refs. Text in Russian. Title tr.: Significance of the sequence in irritant activity for the development of pathological processes; experimental investigation.

Account of experiments with rabbits submitted to diverse "irritants" including frostbite with necrosis. Studying their effect on the nervous system the author attempts to find some common lines of their general pathological effects.

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KOSKENNIEMI, VEIKO ANTERO, see Suomi kuvina. 1934. No. 48261.

46095. KOSOĬ, L. A. Geologo-petrograficheskiI ocherk Keretskogo raIona severnoI Karelii. (Leningrad. Universitet. Uchenye zapiski, no. 26, 1938. Seriûā geologo-pochvennykh nauk, vyp. 6, 65–103, illus., 2 maps, diagrs., 5 tables.) 24 refs. Text in Russian. Summary in

English. *Title tr.:* Geology and petrography of the Keret' district of northern Karelia.

Basic structures of the Keret' district (66°17' N. 33°34' E.) are described with consideration of the sequence of magmatic intrusions and analysis of their move-General geological review (p. 66-75) concerns an ancient mass of various paragneisses with biotite, amphibolegarnet and cyanite gneisses and metabarites (cf. map illus, p. 67, et seq.). The tectonics are analyzed (p. 75-80) with respect to the observed axes and angularities of folds. The petrographic discussion (p. 80-96) includes the supracrust metamorphic formations, also intrusive rocks (granite, migmatite, gabbroanorthosite, porphyrite and others).

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46096. KOSOĬ, L. A. Zametka o turmaline v karel'skikh pegmatitakh. (Leningrad. Universitet. Uchenye zapiski, no. 34, 1939. Serifa geologopochvennykh nauk, vyp. 7, p. 54-59, illus., diagr., tables.) 7 refs. Text in Russian. Summary in English. Title tr.: Note on the tourmaline in Karelian pegmatites.

Characteristics of the tourmaline are described with microphotographs and table giving chemical composition. The observed results are compared with analyses of other investigators. Conclusion is offered that among the laminae of sericite, which occurs as a pseudomorph after large tourmaline crystals, are fine idiomorphic tourmaline crystals of a second generation.

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46097. KOSTIAL, KRISTA, and V. B. VOUK. The influence of temperature on the acetylcholine output from a sympathetic ganglion. (Journal of physiology, Apr. 1956. v. 132, no. 1, p. 239-41, illus.) 4 refs.

Account of perfusion experiments with cats' isolated cervical ganglion. Higher temperatures (40°-20° C.) caused no appreciable change; lower temperatures (20°, 10° C.) caused a significant reduction of the ACh output.

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46098. KOSTŪK, NESTOR SEME-NOVICH. Rezul'taty issledovaniI po dobyche melkokuskovogo fallindricheskogo torfa. (Akademiā navuk BSSR, Minsk. Instytut torfa. Trudy, 1955. t. 4, p. 49-59, illus., diagr.) 4 refs. Text in Russian. Title tr.: Results of studies on the production of peat of small

cylindrical shape.

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Production processes of variously shaped peat (spherical, cylindrical, prismatic, oval, etc.) were studied with a view to increasing output. The output is affected mainly by length of the drying period and convenience in turning the pieces over to dry. Small cylindrical pieces, automatically made during excavation, were found to be the most efficient in shape and they dried uniformly in a comparatively short period. Nozzles for production of peat cylinders and a machine for rolling them over for drying are outlined with illus.

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KOSTĪŪK, NESTOR SEMENOVICH, see also Bel'kevich, P. I., and N. S. Kostūk. Osnovnye napravlenifā...instituta torfa AN BSSR. 1955. No. 43936.

46099. KOSVEN, MARK OSIPOVICH, 1885— Materialy k istorii russko! etnografii xii-xvii vv. (Akademiña nauk SSSR. Institut etnografii. Trudy, 1956. nov. serifa, t. 30, Ocherki istorii russko! etnografii, fol'kloristiki i antropologii, vyp. 1, p. 30-70.) Approx. 100 refs. Text in Russian. Title tr.: Materials for the history of early Russian ethnog-

raphy, 12th-17th c.

Includes exploration and ethnographic descriptions of northern Russia and Siberia. The 14th century Sofilsk chronicles describing the peoples of Permskaya Zemlya (roughly the Pechora, Vychegda and Kama River region) are mentioned (p. 34) and the 15th century Novgorod legend about customs of the Samoyeds of Yugor'skaya Zemlya (Kara Sea region) is cited almost in full (p. 35-36). Travel reports of 17th century merchants, voyagers and leaders of military expeditions are cited and discussed (p. 43-58) as they deal with the life, religion, habits, occupations, trade and geographic distribution of peoples living along the Ob', Yenisey and Lena Rivers, in Yakutia and on Kamchatka. Copy seen: DLC.

KOTANOVÂ, E., see Brod, J., and others. Changes . . . renal haemodynamics and functions . . . cold stimulus. 1966. No. 44140.

KOTENEVA, T. V., see Leningrad. Nauchno-issledovatel'skiI institut geologii Arktiki. Metodicheskie issledovania po geokhimii . . . 1956. No. 46312.

KOTILAINEN, MAUNO JO-46100. Untersuchungen HANNES, 1895- . über die Beziehungen zwischen der Pflazendecke der Moore und der Beschaffenheit, besonders der Reaktion des Torfbodens; eine pflanzen-ökologische Studie mit Rücksicht auf die praktische Bewertung der Ergebnisse. 1927. 219 p. 15 tables. (Finska mosskul-Vetenskapliga skrifter, turföreningen. 80 refs. Text in German. no. 7.) Title tr.: Investigation of the connection between the plant cover of bogs and their character, especially the reaction of peat soils; an ecological study with summary of the practical value of the results.

Use of vegetation as indicators of nutrient values of bog soil can be made by thorough evaluation of their associations. Plant cover, soil acidity, peat composition, and elimatic, edaphic, biotic, and areal factors are investigated. The problem involved is the management required to turn a natural peat soil into a medium for producing culture plants. Bogs studied include some in northern Finland.

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46101. KOTILAINEN, MAUNO JOHANNES, 1895— Vorläufiges über die Wasserchemie der Stratiotes-Seen in Kittilä, Finnisch-Lappland. (Suomalainen eläin- ja kasvitieteellinen seura Vanamo. Tiedonannot (Archivum) 1955, pub. 1956. v. 10, no. 2, p. 153-60, 2 tables.) 19 refs. Text in German. Title tr.: Preliminary report on the water chemistry of the Stratiotes lakes in Kittilä, Finnish Lapland.

Water chemistry has been little investigated in the flora problem of these lakes. In 1955-56, water samples were taken from Jeesiöjärvi and Sotkajärvi. Chemical analyses are tabulated and compared with analyses from Vesijärvi in southern Finland and Pajala in arctic Although pH in the north Sweden. Finnish Stratiotes lakes is high, the electrolytic factor is believed most important in the growth of hydrophytic flora. The study was undertaken to ascertain the influencing factors of the growth of Stratiotes aloides and other eutrophic plants (listed p. 153) which are found in 14 of these so-called Stratiotes lakes. A related study is reported by J. Salonen, Copy seen: DLC. q. v.

KOTKOVSKIĬ, A. P., see Rakovskiĭ, V. E., and others. Torfianoĭ degot' . . . 1953. No. 47507.

KOTLÎAKOV, V. M., see Akademii în nauk SSSR. Institut geografii. Sneg i talye vody. 1956. No. 43523.

KOTOV, N. A., see Vashlîaev, F. V., and N. A. Kotov. Kruglogodovoe stroitel'stvo lezhnevykh dorog. 1956. No. 48689.

46102. KOTTHAUS, ADOLF. Die Forschungsreise des FFS "Anton Dohrn" nach Grönland-Island. (Orion, Apr. 1956. Jahrg. 11, Nr. 7–8, p. 263–66, illus., map). Text in German. Title tr.: The expedition of the fisheries research ship Anton Dohrn to Greenland-Iceland.

Account by the leader of this expedition, which was active from late May till early July 1955 in the Irminger Sea and Denmark Strait. Scientific personnel and crew, biological problems of commercial fishes studied, fry, plankton and bottom fauna, hydrography, fishing gear, etc., are described. Itinerary is included. The Anton Dohrn of 999 gross tonnage, first German fisheries research vessel since the war, began operations in 1955 for the Federal Ministry of Nutrition.

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KOVACS, LESLIE, see Meltzer, H., and others. Echinococcosis . . . Indians and Eskimos. 1956. No. 46704.

46103. KOVAL'CHUK, F. Vernut' klubu byvshuū slavu. (Klub, Oct. 1956. god 6, no. 10, p. 26.) Text in Russian. *Title tr.:* Bring back past glory to the club.

Deplores lack of club activities at the "SeImchan" sovkhoz in Magadanskaya Oblast'. Copy seen: DLC.

**46104.** KOVALENKO, P. S. Voinskie perevozki v ledovykh usloviñskh. (Morskof flot, 1941, no. 9–10, p. 7–15, tables.) Text in Russian. *Title tr.:* Military transportation under ice conditions.

Planning and preparation of vessels for winter duty on lakes and seas are described. Thickness and character of the ice, its movements, bearing capacity and type of loads, power of main and auxiliary ice-breakers, landing conditions (on ice or shore) are considered. Requirements on the ship's ice resistance and general sea-worthiness are specified, including: reinforcement of rudders and protection of propellers, reliability of the bilge system (pumps, transfer valves, clearance beneath cargo to suction pipes, tightness of the bulkheads and low decks,

etc.). Vessels are to carry a complete set of hull repair equipment (specified) also emergency food, water and fuel supplies. Method of navigating through floating ice of different densities is described with consideration of towing, preparation of channels through solid ice field, distance between ships, etc. Ice strength is computed (formula given) for landing various types of cargo, motor vehicles, tanks, artillery, etc. Copy seen: DLC.

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46105. KOVIAZIN, N. M. Rol' geograficheskoi sredy v razvitii khozialstva Krainego Severa Sibiri. (Leningrad. Universitet. Vestnik, 1956. god. 11, no. 24, p. 101–112.) 13 refs. Text in Russian. Title tr.: The geographic environment and development of the economy of the far North of Siberia.

The influence of physical features, climate, fauna and flora of northern Siberia upon the native economy is discussed generally, and in relation to hunting and trapping, fishing, reindeer husbandry and agriculture as means of livelihood. Development of the wood industry, utilization of mineral resources and water power, new means of transportation, etc. have broadened and diversified the interrelation of man and his environment. Notable progress has been made in agriculture, animal husbandry and the fishing industry, as exemplified in forest belts for protection of orchards, gardens (p. 110) at Igarka, Nar'yan-Mar, Salekhard, Berezovo, Khanty-Mansiysk, Tura, Potapovo and Tiksi, etc.

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KOVZEL', A. G., see Akademiû nauk SSSR. Institut geografii. Sneg i talye vody. 1956. No. 45130.

KOYASU, YOSHIHIKO, see Yoshii, N., and others. Effects of hypothermia . . . electrical activity . . . brain . . . 1955. No. 49025.

46106. KOZHANCHIKOV, IGOR' VA-SIL'EVICH. Nasekomye cheshuekrylye, t. 3, vyp. 2. Chekhlonosy-meshechnifsy (sem. Psychidae). Moskva-Leningrad, Izd-vo Akad. nauk SSSR, 1956. 516 p. 334 illus. (In: Fauna SSSR. Insecta Lepidoptera, t. 3, vyp. 2 (Nov. ser. no. 62)) 275 refs. Text in Russian. Title tr.: Lepidopterous insects, v. 3, no. 2. Psychid moths (fam. Psychidae).

Contains a systematic index to the species of this family, followed in the general part (p. 10-118) by data on the body

structure of imago, morphology of preimaginal stages, biology and ecology, classification and phylogeny, geographical distribution and economic importance. Parasitic species are listed with their hosts. In the special part (p. 119-509) are tables for the determination of 170 species, of which 31 are new. Synonyms, references and data on geographic distribution, biology and ecology are given. A few species are native to northern European Russia and northern Scandinavia. An index of scientific names is appended. Copy seen: DLC.

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46107. KOZHEVNIKOV, G. P. RybokhozíāIstvennye vozmozhnosti vodoemov fākutskof ASSR. (Rybnoe khozfāIstvo, July 1956. god 32, no. 7, p. 64-66, tables.) 4 refs. Text in Russian. Title tr.: Fishery possibilities of the waters of the Yakut A. S. S. R.

Contains information on the commercial fresh-water fishes of Yakutia (about 20 species); their distribution, size and weight, catches since 1941; fish stock, etc.

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46108. KOZHEVNIKOV, VADIM MI-KHAĬLOVICH. Na dal'nem severe; rasskaz. (Neva, May 1956, no. 5, p. 113-20, illus.) Text in Russian. *Title tr.:* In the far North; a short story.

Describes hardships of life in the Arctic and construction of modern ore-dressing plant in a new mining settlement on an (unidentified) island in the far North. The name "Port Gvardeysk" is suggested for the town as yet unnamed.

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KOZLOV, F. M., ed., see U. S. S. R. Glavnoe upravlenie geodezii i kartografii. Karta lesov SSSR....1955. No. 48512.

46109. KOZLOV, N. Solntse nad tundrol. (Dal'nii Vostok, May-June 1956. god 24, no. 3, p. 153-59.) Text in Russian. *Title tr.:* The sun over the tundra.

Sketch of Chukotka: the landscape, natural resources, economic conditions and acculturation of the Chukchis. Hunting and trapping show greater yields; vegetable growing, animal husbandry, reindeer breeding some success; further developments are planned. Activities are noted on the collective farms (46) and two motorized hunting combines, also in the schools (66) where some 4,360 boys and girls are taught.

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KRADER, LAWRENCE, see Schmidt, W. Der Ursprung der Gottesidee . . . 1954. No. 47836.

46110. KRÄMER, WALTER. Die Entdeckung und Erforschung der Erde; mit einem Abe der grossen Entdecker und Forscher. 2. Auflage. Leipzig, F. A. Brockhaus Verlag, 1953. 328 p. (Brockhaus Taschenbücher des Wissens.) Over 300 refs. Text in German. Title tr.: The discovery and exploration of the Earth; with an ABC of the great discoverers and explorers.

Outlines the history of exploratory voyages and travels in all parts of the world, from ancient times. Brief biographical sketches are given of over 300 travelers and explorers. Exploration of the Northeast and Northwest Passages and of the arctic regions generally is included (p. 106–126) also (p. 157–314) biographical notes on outstanding arctic explorers. The first edition was pub. in 1949.

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46111. KRAMARENKO, N. N. Novyī rod trilobitov monorakeid iz ordovikskikh otlozhenii Sibirskoi platformy. (Akademiñ nauk SSSR. Doklady, Aug. 11, 1956. t. 109, no. 5, p. 1030–31, plate.) 3 refs. Text in Russian. Title tr.: A new trilobite genus of Monorakeidae from Ordovician strata of the Siberian platform.

Contains full description of Elasmaspis speciosa n. gen. et sp. from upper Ordovician strata of the Podkammenaya Tunguska basin in Krasnoyarskiy Kray; and comparison of this new genus with other fossil genera of the subfamily Monorakeinae.

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46112. KRANCK, ERNST HÅKON, 1898— . Geologische Beobachtungen während einer Forschungsfahrt nach Labrador im Sommer 1939. (Naturforschende Gesellschaft, Schaffhausen, Mitteilungen, 1941. Bd. 17, p. 8–15, text map.) 3 refs. Text in German. Title tr.: Geological observations during a research trip to Labrador in the summer 1939.

Results of reconnaissance survey by the writer in June-Oct. 1939 from Battle Harbour to Nain, continuing work begun in 1937 (cf. No. 9252), but interrupted by World War II. Bedrock geology of each coastal region is briefly described. Rocks are predominantly Precambrian granites and gneisses with many basic intrusions. Highly meta-

morphosed rocks of a basal character are found in the Aillik region, gradually passing to rocks of granitic composition.

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46113. KRASIL'NIKOV, N. A. Mikroflora vysokogornykh skal'nykh porod i azotfiksirufushchafa ee defatel'nost'. (Uspekhi sovremennol biologii, 1956. t. 41, vyp. 2, p. 177–92, tables.) 31 refs. Text in Russian. Title tr.: The microflora of high-mountain rock formations and its N-fixing activity.

After an introduction on the earlier investigations into the problem, the author lists the microscopic plants known to live on lichens and on the weathered surface of such rocks; their frequency, kinds according to taxonomic and physiologic criteria, chemical activity, nitrogen fixation, N-elution from rocks are noted and bacterial activity compared with lower altitudes, etc. Temperature and other conditions on the high mountain ranges resemble those of some arctic

46114. KRASNOPOL'SKIĬ, I. M. Problema redkikh ėlementov v SSSR. (*In:* Khibinskie apatity, 1933. t. 6, p. 90–95.) Text in Russian. *Title tr.:* The problem of rare elements in the U. S. S. R.

regions.

Contains general discussion on the use of alloys with rare elements in metallurgy and particularly in research on substitutes for unavailable elements. Copperporphyric ore was substituted for molybdenum ore; spodumene (thriphane) for borax. Further use of chemical technology is considered for study of the characteristics of lovchorrite, eudialyte, zirconium and other rare minerals, which are essential to progress in metallurgy and to economy generally.

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KRASNOV, I. I., see Boch, S. G., and I. I. Krasnov. K voprosu o granitse... oledenenita... 1946. No. 44062.

46115. KRASNYI, L. I. Skhema geologo-strukturnogo raionirovanifa Okhotskogo morfa i okaimifafushchikh ego skladchatykh sooruzhenii. (Akademifa nauk SSSR. Doklady, Mar. 1, 1956. t. 107, no. 1, p. 135–38, text map.) 10 refs. Text in Russian. Title tr.: A scheme of the geologic-structural subdivision of the Okhotsk Sea and of the bordering folded structures.

Fourteen types of geological structure are distinguished in the Okhotsk Sea, its islands, Kamchatka, and adjacent coastal areas to the upper reaches of the Kolyma River. Distribution of these types is shown (map) and each characterized in turn with statement of its occurrence. The main structural features are (1) Paleozoic, in a narrow strip parallel with the northwest coast from the Shantar Islands to Penzhinskaya Bay; (2) Jurassic and Lower Cretaceous, extending along both sides of the first zone and covering the northwest coast to the upper Kolyma; Tertiary folded belts, over the southern, southeast and northeast areas including nearly all Kamchatka; with (4) an embedded zone of Upper Paleozoic folded belt from Kamchatka to Sakhalin Island. (5) The central part of Okhotsk Sea between the second and third zones is Archean in structure, (6) The sea bottom depression northwest of the Kuril Islands is a Quaternary active zone. These features are related to other structural types of the region, and to bottom elevations and depressions on the basis of recent explorations. Copy seen: DLC. SI

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46116. KRASOVSKIĬ, V. I. Izluchenie neba i polârnykh siâniI; iz programmy Mezhdunarodnogo geofizieheskogo goda. (Akademiâ nauk SSSR. Vestnik, May 1956. v. 26, no. 5, p. 29-31.) Text in Russian. Translated into English by E. R. Hope as: Study of sky and aurora (4p.). Ottawa, Aug. 1956. Canadian Defence Research Board. Directorate of Scientific Information Service, T224R. (Copy at CaMAI). Title tr.: Radiation of sky and of auroras; from the program of the International Geophysical Year.

Discusses studies to be headed in the U. S. S. R. by A. I. Lebedinskii, professor at the University of Moscow; the specially equipped observation stations include those at Murmansk and Tiksi. Planned research comprises synoptic reporting of auroras, regular electrophotometry and spectrography of sky luminescence and the aurora. Synoptic maps will be plotted for the auroras during 15 min. intervals for correlation with solar activities and other phenomena in upper atmosphere such as variations in earth magnetic field and air currents, conditions in ionosphere, etc. Causes for these variations will be analyzed. Automatic photographs will be taken at 5 min. intervals for photometric analysis, and the 180-degree wide-angle cameras will be

supplemented by visual observations. The major problems of the spectrographic research will be related to detection of hydrogen emission and Doppler's displacements, important for estimation of velocity of the solar corpuscular stream, causing the auroras. A north-south chain of stations will reveal latitudinal regularities in the aurora spectra. Continuous electro-photometric and spectrographic recording of polar phenomena and zodiacal light will be carried out. The aurora also will be studied by set of radar installations around Murmansk and in Tiksi Bay. Copy seen: DLC.

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46117. KRAUS, DAVID, 1923—. Alphabetical list of the personnel of various Soviet arctic expeditions (drifting stations only); collected from several Russian and English sources. Cambridge, Mass., American Meteorological Society, [1956?] 8 p. Mimeographed. 5 refs.

Lists 137 individuals connected with the first five so-called North Pole drifting stations of 1937, 1950, 1954 (no. 3-4), 1955, and the Cherevichnyl-Perov expedition to explore the Lomonosov Range by plane, 1954. Role of the participant and source of information are indicated. Compilation was made for the Geophysics Research Directorate, Air Force Cambridge Research Center, under Contract AF 19(604)-1364. Copy seen: CaMAI.

KRAUS, DAVID, 1923-, see also: Belov, N. A. Results . . . bottom deposits. 1956. No. 43945.

Brodskil, K. A., and M. M. Nikitin. Hydrobiological work. 1956. No. 44141. Chukanin, K. I. Meteorological observations. 1956. No. 44372.

Flohn, H. Atmospheric circulation . . . 1954. No. 44918.

Gudkovich, Z. M. Results . . . deepwater hydrological observations. 1966. No. 45330.

Akovlev, G. N. Study . . . morphology . . . ice cover . . . 1956. No. 45672.

Akovlev, G. N. The thermal regime . . . ice cover. 1956. No. 45673.

fAkovlev, G. N. Visual observations . . . drifting ice cover. 1956. No. 45674. Kanaki, V. G., and V. E. Blagodarov. Aerological observations. 1956. No. 45866.

Milfaev, N. A. Astronomical observations. 1956. No. 46748.

Nikitin, M. M. Observations of currents. 1956. No. 47031.

Nikitin, M. M. Wind observations by damper vane. 1956. No. 47033.

Petrov, I. G. Physical-mechanical properties . . . ice cover. 1956. No. 47325. Shirshov, P. P. Scientific . . . drift of station North Pole . . . 1956. No. 47950.

Somov, M. M., and A. A. Musina. Determining the chemical composition . . . sea water. 1956. No. 48119.

Somov, M. M. The drift . . . station of 1950-1951. 1956. No. 48120.

46118. KRAUSE, AUREL, 1848—. The Tlingit Indians; results of a trip to the northwest coast of America and the Bering Straits. Translated by Erna Gunther. Seattle, Published for the American Ethnological Society by the University of Washington Press, 1956. viii, 310 p. illus., ports.

English translation of Arctic Bibliography, No. 9293, a basic work. Author's footnotes are included, with Dr. Gunther's emendations, and reference to newer materials; geographic names have been identified. Reviewed by C. McClellan in Beaver, winter 1956, Outfit 287, p. 56.

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46119. KRAUSE, H. Zur Kenntnis der metamorphen Kieslagerstätte von Sulitjelma, Norwegen. (Neues Jahrbuch für Mineralogie. Abhandlungen, 1956. Bd. 89, Heft 1, p. 137–47, text map, crossections, tables.) 15 refs. Text in German. Title tr.: The metamorphosed intrusions of Sulitjelma, Norway.

Contains results of author's observations in Aug.—Sept. 1952 in the region 67°10′ N. 16°15′ E. Petrographic relations, mineral deposits, the metallic content and mineral constituents of the ore (copper, zinc, sulfur, iron) are discussed. Some conclusions are reached as to ore genesis. Copy seen: DGS.

KRAUSE, HEINZ, see Vogel, G., and others. Zur Wirkung von Stoffwechselinhibitoren . . . 1956. No. 48780.

46120. KRAUTWALD, A. Durchblutungsstörungen als Unfallfolge unter besonderer Berücksichtigung der Erfrierung. (Deutsche Gesundheitswesen, 1956. Jahrg. 11, Heft, 5, p. 149–56.) 32 refs. Text in German. Titte tr.: Blood circulation disorders resulting from accidents with special consideration of frostbite.

A review and discussion of the main recent publications, and views on circulatory disorders, their classification and nature, pathology and pathogenesis. Endangiitis obliterans is the center of this discussion with frostbite and cold-injuries in general as its causative factor. Both clinical and experimental material is utilized in the analysis. The possible role of mechanical injury as cause of said disorder is also discussed.

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46121. KRAVCHENKO, G. T. Mineralogicheskafa s"emka Suolualva. (In: Khibinskie apatity, 1933. t. 6, p. 200-202.) Text in Russian. *Title tr.:* A mineralogical survey of the Suoluayv.

Contains analysis of the petrographic studies made by Prokof'ev in central Kola Peninsula, particularly those related to the trachitoid khibinite zone and others; only the apatite zones were considered of industrial significance.

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46122. KRAVCHENKO, G. T. Mineralogia verkhov'ev reki Tul'i. (In: Fersman, A. E. Za polîarnym krugom, 1932, p. 38-41, illus.) Text in Russian. Title tr.: Mineralogy of the upper reaches of the Tul'ya River.

Reports work of a team which investigated the sulphide zone of the eastern slopes of Kukisvumchorr Mountain in 1932. The most valuable minerals, pvrrhotine and molybdenite, were found in greatest quantity on the upper Tul'ya River; 32 minerals found including zircon and ilmenite are listed.

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KŘEČEK, J., see Hahn, P., and others. Vývoj thermoregulace, 1; . . . 1956. No. 45384.

KŘEČKOVÁ, J., see Hahn, P., and others. Vývoj thermoregulace, 1; . . . 1956. No. 45384.

46123. KREIN, E. Na Angare-reke. (Sibirskie ogni, July-Aug. 1956. god 35, no. 4, p. 133-35.) Text in Russian. Title tr.: On the Angara River.

Describes construction of the hydroelectric station and power lines on the Angara at Irkutsk and Bratsk and the planned station aggregate at Ust'-Ilim and Boguehany. Working conditions, housing, administration, etc. at construction sites are discussed.

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46124. KREJCI, F., and H. BORN-SCHEIN. Elektrophysiologische Untersuchungen über Temperatureffekte in der Schnecke. (Archiv für Ohren- Nasenund Kehlkopfheilkunde vereinigt mit Zeitschrift für Hals- Nasen- und Ohrenheilkunde, 1955. Bd. 167, Heft 2-6, p. 282-84.) Text in German. *Title* tr.: Electrophysiological investigations concerning temperature effect upon the cochlea.

Brief report on studies of microphonepotential (MP) of the guinea-pig cochlea under conditions of general and local hypothermia. A slowing of the MP decrease, caused by aortic ligation, was observed when the animals were hypothermic. Local cooling of the cochlea, caused complete extinction of the MP.

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46125. KRENKEL', ERNEST TEODO-ROVICH, 1903- . Samasa severnasa tochka. (Znanie-sila, Jan. 1956, no. 1, p. 25-26, illus.) Text in Russian. Title tr.: The northernmost point.

Notes the importance of the Soviet Expedition to the North Pole in 1937, and of its drifting station "North Pole," 1937-1938, on which writer was a participant.

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46126. KRINITSYN, M. Belye kuro-(Okhotnich'i prostory, 1956. patki. kniga 6, p. 417-19, illus.) Text in Rus-Title tr.: Ptarmigan.

Brief description of willow (ruslova@) and rock (gornaîa) ptarmigan as observed in the Indigirka and Kolyma basins: habits, food, enemies, methods of hunt-Copy seen: DLC. ing.

46127. KRINSLEY, DANIEL BER-NARD, 1923- . Surficial geology of the greater Thule area. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, pub. 1954. p. 437-39.)

Contains preliminary report including trafficability conditions during the snowfree period. The area includes the icefree land between Wolstenholme Fiord to the north, and Petowik Glacier to the south, as well as both Wolstenholme and Saunders Islands. First and second glaciation, local glaciers, and deposits are briefly discussed. The reconnaissance geology map of the area contains nine rock types and four soil types. This map will appear in the final report.

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46128. KRISS, ANATOLIĬ, EVSEE-VICH, 1908-. Chislennost' mikrobnogo naseleniiâ i biomassa na razlichnykh glubinakh morel i okeanov. (Akademiiâ nauk SSSR. Doklady, Dec. 21, 1956. god 24, t. 111, no. 6, p. 1356–58, table) 5 refs. Text in Russian. Title tr.: Quantity of microbial population and of biomass at different depths of the seas and oceans.

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A comparative evaluation of the number of microbes (and their biomass) at various depths (to 900 m.) of the Arctic Basin (two "North Pole" stations), North Pacific Ocean, and the southern Okhotsk, Black, and Caspian Seas. The paucity of microbial population of the Arctic Ocean is evident as well as their numerical decline below the 50 m. depth (except in the Black Sea). The causes of these conditions and the qualitative distribution of bacteria are discussed.

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46129. KRISS, ANATOLIĬ EVSEE-VICH, 1908- . Mikroorganizmy tundrovykh i polârno-pustynnykh poehv Arktiki. (Mikrobiologiâ, Sept.-Oct. 1947. t. 16, vyp. 5, p. 437-48, tables.) 15 refs. Text in Russian. *Title tr.*: The microorganisms of tundra and polardesert soils of the Arctic.

A study of soils, plant roots, red snow and permafrost of Vrangel Island, Chukotsk Peninsula, Kolyuchin Island and some other spots on route of an expedition of the Academy of Sciences in 1938. Quantitatively, up to 1.5 million bacteria per gm. of dry soil were found, with a tenfold decrease at 30 cm. depth and a fortyfold reduction at the permafrost level. Qualitatively the microflora contained bacteria, cocci, mycobacteria, yeasts, actinomycetes, fungi, etc.

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46130. KRISS, ANATOLIĬ EVSEE-VICH, 1908–. O mikroorganizmakh v vechnoï merzlote. (Mikrobiologiâ, 1940. t. 9, vyp. 9–10, p. 879–87, tables, diagrs.) 18 refs. Text in Russian. Summary in English. *Title tr.:* Microorganisms of the permafrost.

Account of investigation of the permafrost and active layers on Kolyuchin and Vrangel Islands. Quantitative determinations between the topsoil and the permanently frozen layer showed a great range of variation, the frozen zone being much poorer or devoid of microorganisms. The microflora consisted of spore-bearing and non-bearing forms, actinomycetes, nitrifying and denitrifying bacteria; aerobic cellulose bacteria and azotobacter. The problem of anabiosis under these conditions is discussed.

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KRISTENSEN, TOM, see Bogen om Knud . . . 1945. No. 44073.

46131. KRISTIANSEN, UVDLORIÁN-GUAQ. Der er i dag 645 rener i Itivnera. (Atuagagdliutit: Grønlandsposten, Apr. 19, 1956. Ukiut 96-iat, nr. 8, p. 5, 17.) Text in Danish. Title tr.: There are today 645 reindeer at Itivnera.

Notes on the reindeer breeding started in 1952 with 263 animals (645 in Jan.-Feb. 1956), and on the work at the station at Itivnera on the Godthåb Fjord, West Greenland. The experiment is led by Jens Rosing with two Lappish and two Greenland assistants.

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46132. KRIŤSKIŤ, S. N., and M. F. MENKEL'. Zadachi gidrologii v svíazi s gidrotekhnicheskim stroitel'stvom v shestoľ píatiletke. (Meteorologiía i gidrologiía, Dec. 1956, no. 12, p. 9–17.) Text in Russian. *Title tr.*: Hydrological problems in connection with hydraulic construction in the sixth five-year plan.

Hydrological problems are analyzed from the viewpoint of operation, design, etc., of hydraulic installations. Expansion of installations on Siberian rivers (Angara, Irtysh, Yenisey Ob', etc.) requires forecast of the hydrological phenomena for control of river flow of which little is known especially in the permafrost region. Systematic study of seasonal, annual and maximum discharge and run-off is required. A system of widely dispersed stations with modern hydrometric equipment is suggested for regular observations of basic data.

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KRIZHEVSKAÍA, L. ÍA., see Obruchev, S. V. Spravochnik puteshestvennika ... 1949-50. No. 47123.

46133. KROEBER, ALFRED LOUIS, 1876— . Athabascan kin term systems. (American anthropologist, Oct.—Dec. 1937. v. 39, no. 4, pt. 1, p. 602–608.) 5 refs.

Survey of Northern or Pacific Athapaskan kin terms, complementing analysis of those of South Athapaskan groups (Apache) by M. E. Opler; the latter's contribution toward a tentative reconstruction of a primitive Athapaskan kinship system is noted. Athapaskan groups of Mackenzie District are cited among others. A comprehensive study was made later by H. Hoijer, q. v.

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46134. KROEBER, ALFRED LOUIS, 1876— . Linguistic time depth results so far and their meaning. (International journal of American linguistics, Apr. 1955. v. 21, no. 2, p. 91–104, tables.) 23 refs.

Discusses the method of glottochronology applied by M. Swadesh (cf. No. 37676) and suggests a gradual advance from languages of recent divergence to those of older separation. A more intensive study of Tlingit is proposed to determine its position within the Athapaskan group and its relation to proto-Athapaskan. Swadesh's time of language separation and percentage of retained cognates are noted for, among others: Yukon-Greenlandie and Alaskan Eskimo, Eskimoan-Aleut and proto-Eskimo, Tlingit and Hupa, as a representative of Athapaskan (p. 92-93).

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46135. KROG, HILDUR. Determination of the antibiotic effect of lichen acids. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 43-45, diagr.) 7 refs.

Following a review of work on this line since 1944, the author presents his own studies with pure lichen acids, especially with usnic and alectoric acid. Bacillus subtilis and Staphylococcus aureus were used as test organisms with the lichen acids dissolved in glycerol. Dosages and effects are briefly discussed.

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KROG, JOHN, see Erikson, H., and others. The critical temperature in naked man. 1956. No. 44791.

KROG, JOHN, see also Irving, L., and J. Krog. Temperature during the development of birds...1956. No. 45720.

**46136.** KROGH, AUGUST, 1874–1949. Physiology of the blue whale. (Nature, Apr. 1934. v. 133, no. 3365, p. 635–37, illus. table.) 3 refs.

Contains information on growth rate of this whale and comparisons with that of the pig (with respect to weight and body area); on metabolism, muscle power, circulation and respiration; also on

supersaturation of blood during dives and liability to caisson disease.

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46137. KRONGAUZ, F. F. Osnovnye problemy sovetskoï shkoly narodov Severa; tezisy. (Leningrad. Universitet. Uchenye zapiski, no. 115, 1950. Fakul'tet narodov Severa, vyp. 1, p. 135-40.) Text in Russian. *Title tr.:* Basic problems of the Soviet school for the peoples of the North; theses.

Summary of paper delivered to the Northern Conference at Leningrad University, Dec. 10-14, 1947. Special schools for native population of the North had been introduced gradually since 1930. The nomadic and semi-nomadic way of life, absence of native literature and even of writing, lack of teachers, difficulty of inspection and control, etc., retard the progress of education. Change from the Latin to Russian alphabet and interrelation of native and Russian languages in the schools are noted. Institutions which train teachers for native schools are mentioned, among them the pre-war Institute of the Peoples of the North (Institut Narodov Severa, INS).

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46138. KRÜGLER, FRITZ. Maritimmeteorologische Kleinstudien am Eisrand in der Dänemarkstrasse. (Seewart, Apr. 1953. Bd. 14, Heft 2, p. 3-9, illus., diagrs., map.) Text in German. *Titte* tr.: Small maritime-meteorological studies at the ice limit in the Denmark Strait.

Contains results of observations and studies made by the author aboard the fishing vessel Meerkatze during 1952 in the Gammelloch region. Anomalies of the surface water temperature in the mixing zone were ascertained (variations of 5° C. within two hrs.). Series measurements of the temperature at intervals of several minutes are required to draw conclusions concerning the distance of the ship from the edge of the drift and pack ice. Radar equipment aboard the ship was effective only at a distance of one nautical mile from the ice despite a calm sea. misleading nature of narrow drift-ice formations near the actual ice limit is discussed. The presence of low and high fog-formations due to different temperature stratification, and peculiar optical phenomena causing differences in visibility over the warmer and colder water (icewater) are indicated.

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46139. KRUG, WERNER G. Tingun Mayuk, Vogel der Tundra. (Aero, München, Oct. 1954. Jahrg. 5, Heft 10, p. 145–48, illus.) Text in German. *Title tr.*: "Tungun Mayuk," bird of the tundra.

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Contains brief description of aviation in Alaska, stressing the popularity achieved by airplanes as the principal mode of transportation throughout the Territory. The fame of the bush pilot and his activities are cited. Alaska has 30 large airfields and 25 auxiliary fields, 43 radio and radar stations, and 50 weather observation stations. There are more than two dozen large and small airlines.

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46140. KRUSENSTJERNA, EDVARD von, 1908— . Mossflora och mossvegetation vid Harsprånget och i Syd-Muddus i Lule Lappmark. Stockholm, Almqvist & Wiksell, 1954. 37 p. illus., maps (Svenska vetenskapsakademien. Avhandlingar i naturskyddsärenden, nr. 10) 34 refs. Text in Swedish. Summary in English. Title tr.: Moss flora and moss vegetation at Harsprånget and South Muddus in Lule Lappmark.

Account of field study made in midsummer 1947 with description of the areas and their geology. The flora of Harsprånget, site of a great hydroelectric power plant was thus studied before the upstream water level was raised (1952). Its moss vegetation is reported here, with data on associations and habitats; corresponding information is given about the southern part of Muddus National Park. Mosses and liverworts from both areas are listed; plant geographical considerations are discussed and comparison made with other (Sarek, Kuusamo) areas. Muddus has more varying habitats (14 types) than Harsprånget (7) owing to its greater size, deep canyons, etc. These two regions have fewer moss species than Sarek or Kuusamo, yet about 60 of them are not known from Sarek, and 9 not in Kuusamo.

46141. KRUZENSHTERN, IVAN FEDOROVICH, 1770–1846. O Grenlandii, ili novye opyty dla otkrytia sièverozapadnogo puti. (Sièvernyi arkhiv, 1822. chast' 1, p. 341–66). Ref. Text in Russian. *Title tr.:* About Greenland, or new attempts to discover the Northwest Passage.

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Reviews contemporary geographic knowledge of East Greenland and arctic

America. Ross' 1818 expedition to Baffin Bay on the Isabella and Alexander (cf. No. 14873) and Parry's 1819-20 voyage for the discovery of the Northwest Passage on the Hecla and Griper (No. 13145) are described. Start of Parry's 1821 expedition is announced.

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KRYLOV, G. V., see Kolomiets, N. G., and G. V. Krylov. Vesennie . . . vspyshki . . . shelkoprada . . . 1956. No. 46049.

KRYMSKIĬ, L. D., see Uchitel', I. ÎA., and L. D. Krymskiĭ. Vlifanie gipotermii na allergicheskie profsessy. 1956. No. 48505.

46142. KRYPTON, CONSTANTINE, pseud. The Northern Sea Route and the economy of the Soviet North. New York, Frederick A. Praeger, 1956. ix. 219 p. text map, tables. (Research program on the U. S. S. R. Studies, no. 14. Praeger publications in Russian history and world communism, no. 42) 384 refs.

A continuation (1917–1954) of the writer's earlier work (*Arctic Bibliography* No. 30246); based on unpublished and published sources mainly Soviet.

Introductory review of economic and strategic factors involved in Soviet development of the Route, also problems of sovereignty, is followed by consideration of the shipping lanes (5) especially the Kara Sea run, and the role of Glavsevmorput'. The central chapter 3, extensively documented, deals with the economic potential of areas serviced by the Route: coal, oil and minerals, the fisheries and sea-hunting, lumber, fur trade, agriculture, etc. Factors in their development are considered: power, manpower, such natural conditions as permafrost, and Soviet "management policy which eliminates individual initiative and concentrates power in officials at the apex of the bureaucracy," especially injurious to the extreme North. Concluding chapters survey navigation, vessels, port facilities on the Route, aviation and river transport; cargoes and turnover; Soviet incentives in developing the Route are appraised: economic, scientific, cultural and, as predominant, strategic. Copy seen: DLC.

46143. KRYZHANOVSKIĬ, S. G. Razvitie salaki v vode povyshennom solenosti. (Voprosy ikhtiologii, 1956, vyp. 6, p. 100-104, illus.) Text in Russian. Title tr: Development of the sprat in water of increased salinity.

Account of experiments to rear this species in White Sea water (S=25°/oo) as against its normal environment in the Baltic ( $S=4-5^{\circ}/_{\circ\circ}$ ). Whether the sprats were kept in the high-salinity water from the egg stage or transferred into it after early development in a brackish medium, they failed to reach the larval stage. The experiments were made with the aim of transplanting this commercial fish to the White Sea.

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KSENOFONTOV, GAVRIIL VASIL'E-VICH, see Friedrich, A., and G. Buddruss. Schamanengeschichten . . . 1955. No. 44978.

46144. KUCERA, RICHARD E. Snow studies related to trafficability on the Greenland icecap. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, pub. 1954, p. 409-429, illus., graphs.) 8 refs.

"The results of transportation capability studies made at 38 test locations along the route from Thule Ramp to Mile 320 are reported; the methods of investigation are described; and the differences between the marginal zone and the dry snow zone are analyzed with respect to temperature, density, and hardness. The initial density of naturally compacted snow varied from 0.25 to 0.50 gm./cc., with the higher values in the marginal zone, increasing after compaction by a weasel and sled unit to 0.35-0.60 gm./cc. in the transition zone and 0.38-0.42 gm./cc. in the dry snow zone. The increase in snow density under natural conditions is rapid to a certain point, beyond which it increases at a slower rate. Age hardening after artificial compaction occurs after several hours. Snow with a lower density at low temperatures will sustain heavier load than higher-density snow at temperatures near the f. p. The depth of sled penetration is a function of snow hardness and is more constant in the dry snow zone. Weasel sled runners provide good flotation on varying snow surfaces, but specific design features reduce the overall efficiency. Tractor sled runners exerting a pressure of more than 0.88 p. s. i. are suitable on ice but very inefficient in dry snow. Data are graphed on variations in hardness, density, and penetration of snow, the relation between density and max. depth of compaction, that between initial snow hardness and sled penetration, the change of density in relation to number of weasel and sled passes, and age hardening."-SIPRE. Copy seen: CaMAI.

KUCHEPATOV, A. G., edit., see Moskva. sel'skokhoz. vystavka. Vsesoiuznaia Pavil'on Karelo-Finskafa SSR . . . 1956. No. 46864.

KUCHINA, E. S., see Zvereva, O. S., and others. Rybnye bogatstva . . . 1955. No. 49083.

46145. KUCYNIAK, JAMES. Mousses nouvelles ou intéressantes de la bryoflore du Québec. (Association canadiennefrançaise pour l'avancement des sciences, Montreal. Annales de l'ACFAS, 1955. v. 21, p. 104-108, 3 text maps.) 11 refs. Text in French. Also pub. as: Montreal Botanical Garden, Memoir no. 44. Title tr.: New or interesting mosses of the Quebec bryoflora.

Includes (p. 107) note on Hygrohypnum alpestre, an arctic species found on rocks or boulders beside running water. It is known from Svalbard, arctic Siberia, Greenland, and Alaska, and now from northern Quebec: on the Gulf of Richmond, east Hudson Bay coast, and Lake Marymac (approx. 57° N. 68°33′ W.).

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46146. KUCYNIAK, JAMES. range of Kiaeria starkei in Quebec. (Rhodora, June 1949. v. 51, no. 606, p. 122-23).

This moss and its distribution are discussed, with conclusion that in Quebec only two stations are known for it to date: Mt. Albert in Gaspé County and Wolstenholme on the north coast.

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46147. KUDRIASHEV, I. T. Proizvodstvo facheistykh betonov na osnove peny i na osnove gazoobrazovanifa. (Bûlleten' stroitel'nol tekhniki, Sept. 1956. god 13, no. 9, p. 4-7, table.) Text in Russian. Title tr.: Manufacture of cellular concretes on the basis of foam and on that of gas formation.

Composition and processes are described with attention to various properties of concretes suitable for construction in cold regions. Composition and properties of foreign and domestic products are compared in detail and tabulated. The autoclaved foam concretes ("penobeton") and foam-silicate ("penosilikat") of 800 and 1000 kg./m.³ density, subjected to cyclic steam curing under pressure 8 atm. during 4+6+4 hrs. have a compression strength of 50-60 and 80-120 kg./cm.² respectively. Frost resistance of the cellular and foam concretes and also gas-forming concretes is tested with 25 cycles of freezing at temperature of  $-15^{\circ}$  C. Copy seen: DLC.

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46148. KUDRÍAVÍSEV, M. N. Avtomobil'nye dorogi, chast' 2; remont, soderzhanie i proektirovanie. Izd. 2e. ispr. i dop. Moskva, Izd-vo dorozhno-tekhnicheskol lit-ry Gushosdora MVD SSSR, 1950. 235 p. tables, illus, diagr., graphs, 13 refs. Text in Russian. Title tr.: Automobile roads, part 2; repairs, maintenance and planning. 2nd rev. and enl. ed.

Textbook approved by the Labor Division of the State Administration on Highways of Ministry of Internal Affairs, for colleges on roads and mechanics.

Various problems in road construction and maintenance are dealt with, including the winter maintenance of highways (p. 43-60). The effects of snow cover on road trafficability are discussed, and theories on snow movement near the ground and on the formation of snowdrifts with various forms of relief are given. Methods of snowdrift control and machinery for snow removal from roads are The problems of controlling described. road slipperiness and road protection from sandstorms are briefly discussed. Conditions of road surveying and prospecting are presented (p. 105-108), with consideration of permafrost regions. effects of permafrost and associated phenomena on roadbeds are described with emphasis on naleds and the changing permafrost conditions after road construction. Low fills frequently cause a drop of the permafrost table and the accumulation of ground water under the roadbed, a process that leads to frost heaving. Permafrost formation in high fills sometimes causes subgrade creep over the frozen strata. Destruction of forest and vegetation cover during road construction also changes the thermal conditions of the soil and should be considered in locating a road together with the possibility of protecting the permafrost from degradation by using peat interlayers under the roadbed. The planning and laying of the roads through the regions subject to landslide and through marshlands are outlined with illus. (p. 108111)—From SIPRE. Pt. 1 of this work, by the writer and A. Â. Bykov (352 p.) pub. 1949, deals with road construction; it includes a brief account of snow and ice roads, previously listed as No. 30252.

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46149. KÜCHLE-SCHEIDEMANTEL, INGRID. Die Dauer der Schneedecke in Europa. (Petermanns geographische Mitteilungen, 1956. Jahrg. 100, Quartalsheft 3, p. 185–92, fold. map.) Approx. 200 refs. Text in German. Title tr.: The duration of snow cover in Europe.

Includes brief discussion of Scandinavia, comparison of northern and southern regions, depth and duration of snow cover in the north, air masses affecting the region in winter. Copy seen: DGS.

46150. KÜHN, ARTHUR. Hocharktische Wüsten. (Polarforschung, 1954 pub. 1956. Bd. 3, Heft 1-2, Jahrg. 24, p. 306-307.) Ref. Text in German, Title tr.: High arctic deserts.

Contains summary of Dr. Fristrup's paper listed as No. 34779 of Arctic Bibliography. Copy seen: DLC.

46151. KÜHN, ARTHUR. Eine Hypothese über die Entstehung der Eisinseln. (Polarforschung, 1954, pub. 1956. Bd. 3, Heft 1-2, Jahrg. 24, p. 294-95). Ref. Text in German. Title tr.: A hypothesis on the origin of ice islands.

Contains a summary of Dr. Debenham's paper, No. 34331 of Arctic Bibliography.

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46152. KÜHN, ARTHUR. Neue Feststellungen über die Mächtigkeit des arktischen und antarktischen Inlandeises. (Polarforschung, 1954, pub. 1956. Bd. 3, Heft 1–2, Jahrg. 24, p. 297.) Ref. Text in German. Title tr.: New determinations of the ice thickness of arctic and antarctic inland ice.

Contains summary of J. J. Holtzscherer and G. de Robin's paper, listed as No. 35292 of Arctic Bibliography.

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KUHL, W. J., Jr., see Ralli, E. P., and others. Effects of vitamin supplementation . . . cold stress . . . 1956. No 47509.

46153. KUHN, LESLIE A. The effects of arctic climate and different shelter temperatures on the electrocardiogram. (American heart journal, Mar. 1956.

v. 51, no. 3, p. 387-97, illus. tables.)

From Army Medical Service test program carried out at Fort Churchill during the winter 1954, effects of arctic climate and of two different shelter temperatures on the electrocardiogram are reported: electrocardiographic changes occurred with greater frequency and severity in arctic than in temperate climate following light or heavy work; there were more changes when the men lived in a 50° F. shelter than at room temperature. No abnormalities were observed in the resting electrocardiograms.

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46154. KUKHARENKO, T. A. Guminovye kisloty torfov i osobennosti ikh struktury. (Akademiâ navuk BSSR. Minsk. Instytut torfa. Trudy, 1954. t. 3, p. 120–32, tables, graphs.) 9 refs. Text in Russian. Title tr.: The humic acid of peat and specific features of its structure.

Formation of peat, as the youngest stage of coal and graphite, is studied on the basis of the chemical nature of humic Three groups of the acid are considered: soluble in water, in alcohol, and nonsoluble (humus). The composition and properties of the last group vary with different stages of coal formation. The composition is correlated with the origin and stage of peat formation. Genetic classification of humic acid is tabulated, as are the characteristics of hydro-carbons in the hydrogenization of humic acids for different stages, and the solubility of product of their decomposition. Humic acid from different solid fuels can be investigated also by X-rays and their interferential maximums on the difractional picture vary from younger to older origin. Copy seen: DLC.

46155. KUKLIN, A. Prokhodka shakhtennykh stvolov sposobom zamorazhivania. (Master ugla, June 1956. t. 5, no. 6, p. 9-11, illus, graph.) Text in Russian. *Title tr:* Drilling mine shafts with the freezing method.

Drilling through water-bearing layers is described from work at the Dorogo-buzhskiy coal deposit. The section of the shaft where seepage occurred was bored at slightly larger diameter (15 percent) to accommodate a freezer column, connected with a refrigerating unit. The column remained in the shaft until drilling was completed; 25 shafts, with a total length of 2375 m.,

were completed in 34 days, by the turbodrill with the freezing method.

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46156. KULESHOV, A. N. Iz opyta ėkspluatat̃sii gazogeneratornykh avtomobileI Ural-ZIS-352. (Lesnatā promyshlennost', June 1954, god 14, no. 6, p. 19-20, illus.) Text in Russian. *Title tr:* Experience in the use of the gasgenerating unit in the automobile Ural-ZIS-352.

Gas-generating units are widely adopted in the trucks used for hauling logs from remote lumber camps. Difficulties in operation of this unit are described and improvements proposed in various details. Birch chunks are found less troublesome for the furnace and engine than pine. The gas generator requires repair after 8,000-10,000 km. service.

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KULIK, E. L., see Maslov, V. P., and E. L. Kulik. Novaîa . . . (Bereselleae) . . . karbona . . . 1956. No. 46649.

46157. KULIKOV, IU. Ptensy poliarnol sovy. (Ogonëk, Aug. 1956, god 34, no. 34, p. 31, illus.) Text in Russian. *Title tr:* Nestlings of the snowy owl.

A geologist's encounter with the snowy owl on the Kara coastal tundra; photo. of its young. **Copy seen:** DLC.

46158. KULIKOV, K. A. Dvizhenie poliûsov zemli. Moskva, Izd-vo Akademii nauk SSSR, 1956. 81 p. illus., tables, graphs, diagrs., 15 refs. (Nauchnopopulârnaß seriß). Text in Russian. Title tr: Movement of the earth's poles.

Study of movement of the North Pole in respect to longitude and latitude is reviewed over a period of 65 years. The cause of these movements is not clearly defined. Certain hypotheses, based on work in geology, geophysics, seismology, are considered in relation to the internal structure and liquid part of the earth, and to seasonal variations of the meteorological processes. Terminology and methods of observation are reviewed. Recorded movements of the North Pole during 1890–1955 are graphed.

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46159. KULKA, JOHANNES PETER, 1921.— Histopathologic studies in frostbitten rabbits. (In: Conference on Cold Injury. 4th, Nov. 7-9, 1955, Princeton, N. J. Transactions, pub. 1956, p. 97-151, illus.) 39 refs.

A study of some 30 lesions produced by cold exposure lasting 38 minutes to 333 days under conditions much resembling those encountered by man in the field. Changes in the vascular system, muscle, blood, bone, connective tissue and skin, at different stages of cold injury, are demonstrated and discussed. Differential sensitivity of tissues to cold exposure; survival of such tissues; physiology of freezing, etc., is also dealt with.

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46160. KULLING, OSKAR, 1898—. Berggrunden söder om Torneträsk. On the Caledonides to the south of Torneträsk in the mountains of northern Swedish Lapland. (Geologiska föreningen, Stockholm. Förhandlingar, 1950. bd. 72, häfte 4, no. 463, p. 454-71.) 9 illus. Text in Swedish. Summary in English.

On the basis of remapping in 1950, the rocks and tectonics of a section of the mountains of northwestern Sweden are described. The area concerned extends from Torneträsk southward to Rautasjaure-Allesjokk-Appörjaure-Sjangeli, westward to the Norwegian border, and to the eastern margin of the mountains at Luopakte. Above the Archean beds and the lower Cambrian sedimentary, the socalled Hyolithus series (believed to be in situ) overthrusts of the Caledonides are found to include Archean as well as younger formations. The so-called Seveköli nappe complex is subdivided. Summary is added (p. 489-92) of the oral discussion following the lecture.

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46161. KULLING, OSKAR, 1898—. Bidrag till diskussionen om Torneträskberggrunden. (Geologiska föreningen, Stockholm. Förhandlingar, 1950. bd. 72, häfte 4, no. 463, p. 481–85.) Text in Swedish. *Title tr.:* An addition to the discussion about the bedrock at Torneträsk.

Following presentation of his paper on Torneträsk bedrock (No. 46160) and the ensuing discussion, the lecturer enlarges upon details of metamorphism and alteration, and offers in comparative tabular form, his own interpretations of rock series in the region with those of his colleagues. His views were challenged by Gunnar Kautsky, q. v.

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46162. KULSLAND, KARL. Forsøk med kunstgjødsel i Vestfinmarken. (Nor-

disk landbrugsforskning, 1921. Aarg. 3, hefte 2, p. 74-76, table.) Text in Norwegian. *Title tr.:* Research with commercial fertilizer in western Finnmark.

Report is made of a three-year study of commercial fertilizer on native grass meadow. Soil is described. Incomplete fertilization gave poor results but the more complete combinations gave good yields. Nitrogen requirements are important in the short growing season; phosphate seems least important of major fertilizer elements. Copy seen: DA.

46163. KUL'TIASOV, MIKHAIL VASIL'EVICH. Prirodnye rastitel'nye bogatstva SSSR i ikh narodnokhozfaïstvennoe znachenie. Moskva, Izd-vo "Znanie," 1955. 32 p. illus., maps. (Vsesofiznoe obshchestvo po rasprostranenifi politicheskikh i nauchnykh znanif. Serifa 3, no. 16). Text in Russian. Title tr.: The natural plant resources in U. S. S. R. and their economic significance.

Ninety percent of the land surface in the U. S. S. R. is suitable for plant growing and only ten percent of it so utilized. The natural conditions of meadows, steppes, forests and deserts are outlined, possibilities of their economic development are discussed, and the main wild-growing plants of economic significance are briefly characterized. Limits of the main tree genera are shown (map, p. 8), utilization of seaweeds in the Barents and White Sea coastal areas and of lichens in the far North are noted (p. 15, 16).

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46164. KUNERT, MAJA. Blaues Eis und rote Sonne; eine Reise durch Grönland. Hannover, Fackelträger-Verlag, 1956. 288 p. plates. Text in German. Title tr.: Blue ice and red sun; a journey to Greenland.

Recounts experience of a summer trip from Copenhagen to West Greenland: itinerary, writer's accident aboard ship and sojourn in the Godthaab hospital and guesthouse; visits in the neighborhood, fishing-trips, contacts with the Greenlanders, with townspeople and professionals, outings with a film-photographer and a marine biologist. Background information is supplied on weather and climate, food, dress, and habits, administration, social life, history of the area, etc. Copy seen: DLC.

46165. KUNGURTSEV, A. A. Snegouplotnenie i snegopakhanie na políakh i lugakh. (Zemledelie, Nov. 1955. god 3, no. 11, p. 88–93, graphs, illus.) 4 refs. Text in Russian. *Title tr.:* Compacting and plowing of snow cover on fields and meadows.

The effects of depth and density of snow cover on soil temperature 'are discussed, and depth-density data for the protection of wintering crops are graphed. Compacting of snow is considered as a protective measure against loss of snow from drifting, and lowering of soil temperature in upper ground layers. Various methods of snow compacting with horse- and tractor-driven arrangements are described. Optimum temperature for wintering crops ranges from  $-5^{\circ}$ to -15° C. In deep snow, increase of snow density protects the upper ground strata from thawing; a density of 0.20 is sufficient to protect against drifting over large areas of the U.S.S.R. In areas with winds of 14 m./sec. and more, the snow should be compacted to a density of 0.25-0.30.-From SIPRE.

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46166. KUPLETSKIĬ, BORIS MI-KHAÏLOVICH. Istoricheskii ocherk. (In: Fersman, A. E. Za pollārnym krugom, 1932. p. 8-17, illus.) Text in Russian. Title tr.: Historical outline.

Brief survey of the scientific exploration of Kola Peninsula. Until the second half of the 19th century, only the coasts and the route between Kandalaksha and Kola were visited by explorers; the Finnish expeditions, notably that of 1887-92 headed by W. Ramsay, began study of other regions of the peninsula, and they were followed by Russian explorers (P. B. Rippas, B. A. Popov, F. D. Pleske, and others). Construction of the Murmansk railroad opened the way for broader investigation, and since 1920 the Academy of Sciences has been carrying on systematic exploration of geology. mineralogy, botany, fauna, economic conditions, anthropology and archeology: the chief explorers, their main achievements and the dates are noted.

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46167. KUPLETSKIĬ, BORIS MI-KHAĬLOVICH. Ul'traosnovnye intruzii Monehe-Tundry. (In: Fersman, A. E. Za polârnym krugom, 1932. p. 42–47, illus., map.) Text in Russian. Title tr.: Ultra-basic intrusions of Moneha Tundra.

Reports on investigations of olivine occurrences carried out for the glass industry in 1929–32 in the Zaimandra

region, west of Lake Imandra. Magnetic anomalies were found, indicating the presence of sulfides, but the results are not yet worked up. Map of the region, approx. 1 cm.: 750 m.

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KUPREVICH, VASILIĬ FEOFILOVICH, 1897-, see Savich, V. P., and others. O...antibiotike iz lishaĭnikov... 1956. No. 47808.

46168. KURBATOVA-BELIKOVA, N. M. Itogi izucheniâ mikrobiologicheskol deâtel'nosti v estestvennykh torfânykh zalezhakh. (Akademiâ navuk BSSR, Minsk. Instytut torfa. Trudy, 1954. t. 3, p. 133–45, tables, graphs.) 19 refs. Text in Russian. Title tr.: Results of the study of microbiological activity in natural peat beds.

Microbiological investigation of the decomposing vegetation in different swamps and marshlands is described. The activity of bacteria, molds and actinomycetes, covering the vegetative remains was studied in situ and in laboratory samples. Active microorganisms are usually concentrated in the upper layer of the peat mass. Intensity of the decomposition processes depends mainly on the type of peat formation. Concentration and distribution of molds, aerobic and anaerobic bacteria at various depths of the swamps are presented in tables and diagrams. Formation of peat is considered a short-time process which is basically completed during a few vegetational periods.

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46169. KURBATOVA-BELIKOVA, N. M., and T. A. SHINKAREVA. Izmenenie mikroflory frezernogo torfa v svíazi s ego samorazogrevaniem. (Akademiſa navuk BSSR, Minsk. Instytut torfa. Trudy, 1953. t. 2, p. 40-58, tables, graphs.) 10 refs. Text in Russian. Title tr.: Change in the microflora of milled peat in connection with its self-heating.

Results of microbiological investigations are correlated with the authors' data on generation of heat in peat-crumbs in storage with the rapid growth of microorganisms. Quantitive and qualitative variation in composition of the microflora does not indicate clearly the tendency to self-heating. Presence of mold and actinomycetes, however, precedes the development of coccus, bacillus, thermophyllites and bacteria. Moisture, nitrogen and phosphorus are active stimulants for self-heating. With moisture at 30-40 percent, the microflora consists of molds and actinomycetes; from 40 to 60 percent there is disappearance of the mold and intensive growth of bacteria with rise of temperature especially in the upper layers of the peat. Measures to prevent self-heating of peat-crumbs at present are mainly limited to ventilation of the local mass with rising temperature.

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46170. KURBATOVA-BELIKOVA, N. M., and T. A. SHINKAREVA. Mikrobiologicheskii metod opredelenia sklonnosti torfov k samorazogrevaniū. (Akademiā navuk BSSR, Minsk. Instytut torfa. Trudy, 1953. t. 2, p. 33-39, table.) Text in Russian. Title tr.: A microbiological method for determining the tendency of peat to self-heating.

Reports study of thermal effects of certain microorganisms in peat masses and of conditions favorable to self-ignition. Growth of molds, mold fungi (actinomycetes), bacteria and microorganisms on the organic residue of peat were studied under laboratory conditions, and the results are tabulated with data of thermal effects. The presence of moisture, nitrogen and phosphorous accelerates the self-heating, this tendency in peat may be indicated by both microbiological and chemical analyses. Copy seen: DLC.

46171. KURCHATOV, G. N., and G. I. GRANIN. Lenskomu parokhodstvu 100 let. (Rechnof transport, Aug. 1956. god 15, no. 8, p. 1–3.) Text in Russian. *Title tr.:* A hundred years of Lena River steamboat navigation.

Contains an historical review of river navigation from its initiation by Cossacks in 1619 with small boats. The first steamer, Pervenets, was built in 1855, and in 1917 the river fleet was enlarged to 32 steamers and 107 barges of 21,000-ton displacement. Further expansion came with gold-mining developments along the Lena and Aldan. By 1955 three different river navigation organizations were in operation with many steamers, tugs, tankers, and numerous barges for cargo transportation. Navigation time from the port of Osetrovo (Ust'-Kut) to Yakutsk and Tiksi was reduced from 2-3 weeks to 4-6 days; Lena River shipping goes clear to the sea, and on to the Khatanga, Anabar, Yana, Indigirka and the Kolyma, as well as to the ports of

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Tiksi and Pevek. The Lena is now becoming an important waterway for transporting coal, oil, lumber, and mining construction materials. During the next 10-15 years, cargo will probably double or triple in volume. A major problem for the future therefore is to close the existing gap between fleet capacity and port facilities for loading, storage, repairs, and wintering bases.

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46172. KURDÍŪMOV, S. V. Kompleksnafa mekhanizatsifa neélektrifitsirovannykh torfopredprifatif srednef i malof moshchnosti. (Akademifa navuk BSSR, Minsk. Instytut torfa. Trudy, 1955. t. 4, p. 78–90, illus., diagrs.) 2 refs. Text in Russian. Title tr.: Expanded mechanization of non-electrified peat enterprises of medium and small output.

Rapid expansion of the peat industry is discussed on the basis of a broad mechanization of the intermediate production. In the limited preparation of the bog for excavating, the following machines are used: large and small excavators (shovels), bulldozers, cultivators (harrows), graders and rollers. For excavation, drying and collecting of peat mosses, excavators of various types are used, also spreaders, machines for turning or rolling over the turfs, for collecting and loading them in piles and cars. Large chain-type excavators are used for the trench and for reloading piles into transportation equipment. machines and their operation are described with illus. Copy seen: DLC.

46173. KURILOV, S. V Shirshinskom zverosovkhoze. (Okhota i okhotnich'e khozálstvo, Dec. 1956, no. 12, p. 56.) Text in Russian. *Title tr.:* On the Shirshinskiy state fur farm.

Notes success of this farm, in Ark-hangel'sk Province, in blue and silver fox breeding.

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46174. KURINNYĬ, T. G., and others, Naturnye obsledovaniâ "kholodnogo" betona. (Gidrotekhnicheskoe stroitel'stvo, July 1956. t. 25, no. 6. p. 14–18, tables.) Text in Russian. Other authors: V. M. Medvedev and G. A. Shisho. Title tr.: Investigation of "cold" concrete in construction.

Study of the strength and other characteristics of special concrete mixtures with additives, to harden below freezing temperature is described in detail. Two

types of specimens were used in tests: (1) experimental blocks prepared with different compositions and under various practical conditions; and (2) blocks or pieces cut from actual construction under various winter conditions in different regions. Strength and frost resistance of concretes of various composition are analyzed. Additive concentration varied with atmospheric temperature, and the concentration of 18 percent CaCl<sub>2</sub> + 4.5 percent NaCl was found to be the most frost resistant for a range of temperatures between -8° and -26° C.

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46175. KUROIWA, DAISUKE. Growth of snow crystals in supercooled cloud. (Teion-kagaku, Low temperature science, Sapporo, 1955, ser. A. no. 14, p. 1–13, illus., table, graphs, diagrs.) 11 refs. Text in Japanese. Summary in English. English translation by E. R. Hope, pub. as Canadian Defence Research Board, T58J, Dec. 1956.

"Various theories on snow-crystal growth by coalescence with water droplets in the atmosphere are reviewed. The conditions under which a droplet, passing through a diffusion field, will reach the snow crystal without evaporating completely are determined mathematically. A droplet 1-2  $\mu$  in diam. will reach the surface of a crystal falling at 20-30 cm./sec. at a temperature as low as 12° C. when the vapor pressure difference between ice and water is at the max."—SIPRE.

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KUROIWA, DAISUKE, see also Yamaji, K., and D. Kuroiwa. Study . . . elastic and viscous properties . . . 1954. No. 49021.

46176. KUSHAKOVSKIĬ, O. S. Model' pletizmografa s vodnoĭ peredacheĭ i s chernil'nym pischikom. (Fiziologicheskiĭ zhurnal SSSR, 1955. t. 41, no. 4, p. 548-86, illus.) Text in Russian. *Title tr.*: Model of a plethysmograph with water transmission and an ink recorder.

Description of a portable apparatus used in various investigations, including heat production. In this particular model, the hand is used for that purpose.

\*Copy seen: DNLM.

46177. KUSUNOKI, KOU. Recent advances in the study of sea ice. (Teionkagaku, Low temperature science, Sapporo, 1955, ser. A, no. 14, p. 155-84, 3 sketch maps, diagrs., 4 tables) Bibliog-

raphy (113 refs.) in roman alphabet. Text in Japanese.

Survey based on the literature of 1935–1955, mostly 1950–1955. Government agencies of nine countries concerned with sea ice are listed, also some of their publications; efforts to establish an international ice nomenclature are reviewed. Ice formation, conditions, and distribution along the various coasts and in arctic seas are sketched; also ice-breaking services, physical and chemical properties of ice, its movement, forecasting, ice islands, etc. The Soviet High Latitudes Expedition of 1954 is noted, also forthcoming IGY., 1957–1958. Copy seen: DWB.

KUSUNOKI, KOU, see also Fukutomi, T., and others. Study of sea ice, 21 . . . Okhotsk . . . 1954. No. 45002.

KUSUNOKI, KOU, see also Fukutomi, T., and K. Kusunoki. Temperature distribution . . . ice-plate . . . 1956. No. 45003.

46178. KUVAEV, V. B. Luga i pastbishcha Olekminskogo raiona ÎAASSR. (Akademifâ nauk SSSR. ÎAkutskii filial, Yakutsk. Institut biologii, Trudy, 1955. vyp. 1, p. 103-135, illus., tables.) 11 refs. Text in Russian. Title tr.: Meadows and pastures of the Olekminsk district, Yakut A. S. S. R.

Contains information on the geology, geography, climate and soils of the area; its grasses and their economic value; notes on their occurrence, distribution, nutritive value, etc.; kinds of meadows in the area, their percentage and distribution, vegetation and yields; pastures and their corresponding characteristics.

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46179. KUVAEV, V. B. Rastitel'nost' vostochnogo Verkhofan'fa. (Rastitel'nost' Kraĭnego Severa SSSR i ee osvoenie, 1956. vyp. 2, p. 133–86, illus., graphs, tables, map.) 76 refs. Text in Russian. *Title tr.:* The vegetation of the eastern part of the Verkhoyansk Mountains.

In summer 1951, the author, accompanied by S. S. Semenov, made a 270 km. trip along the Vostochnaya Khandyga River (right tributary of the Aldan, approx. 63° N. 138° E.) to the Verkhoyansk Mts. and upper reaches of the Indigirka River, studying the vegetation. The physical-geographic conditions are outlined, the vegetation characterized generally and typical plants assemblages described, as observed on

forested slopes, thin forest-tundra, mountainous and valley tundras, also on the cold desert of the area. This vegetation is compared with that of other regions of the far North, and the economic importance of flora in the eastern Verkhoyansk Mts. is discussed. The various assemblages are presented in 18 tables and the plants listed: 42 lichens, 40 mosses and 163 vascular plants. The cumulative index of the volume (p. 498–509) includes Latin names of plants mentioned in this paper.

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46180. KUVSHINOV, A., and N. MESHKOV. Uluchshit' ispol'zovanie traktorov v zimnee vrema. (Mashinotraktornana stantsia, Feb. 1956. t. 16, no. 2, p. 33-34, illus., diagrs.) Text in Russian. Title tr.: Improved winter

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Importance of good winter service of tractors in farming is discussed. Main difficulties are stated to be the poor coldstarting of the engine and freezing of the transmission gears. The heating arrangement for the PD-10 Diesel engine is described. Detailed illus. are given for heating of the transmission gear box also a chart for starting time at different air temperatures.

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46181. KUZ'MENKO, F. K. Agrotekhnika vyrashchivanila kartofella i ovoshchnykh kul'tur v Aldanskom sovkhoze Dal'strofa. (Akademifa nauk SSSR. fakutskii filial, *Yakutsk*. Institut biologii, Trudy, 1955. vyp. 1, p. 89-94.) Text in Russian. *Title tr.*: The raising of potatoes and vegetables in the Aldan sovkhoz of Dal'stroy.

Information is presented on the location, soils, climate and cultures of the kolkhoz, and on methods of growing potatoes, cabbage, turnips, and perennial grasses. Quality of soil, depth of plowing, time of sowing or planting, varieties preferred, manure, etc., are discussed. This kolkhoz is in the Tattinskiy district on one of the numerous islands in the Aldan River, 5 km. from Khandyr.

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46182. KUZ'MICHEV, P. Na Enisee. (Pioner, Oct. 1956, no. 10, p. 32, col. illus.) Text in Russian. *Title tr:* On the Yenisey.

Description of the Yenisey River and its shipping, mainly in the Krasnoyarsk area.

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KUZ'MIN, P. P., see Akademiß nauk SSSR. Institut geografii. Sneg i talye vody. 1956. No. 43523.

46183. KUZNETSOV, A. TSvety v snegu. (Vokrug sveta, May 1956, no. 5, p. 18, illus.) Text in Russian. Title tr.: Flowers in the snow.

Note on Rhododendron (kamchaticum?) observed by the author early in spring, growing in snow on the slopes of a volcano on the Bering Sea coast.

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46184. KUZNETSOV, A. I. Metodika instrumental'nogo opredelenia raskhodov l'da. (Meteorologia i gidrologia, Mar.—Apr. 1955, no. 2, p. 42-44, diagrs.) Text in Russian. *Title tr:* Instrumental method of determining the rate of river ice movement.

A formula for calculating the amount of ice passing a given river cross section is suggested and its application in practical measurements is described. The formula expresses the value as a function of the concentration of the passing ice, the width of the river, the speed of ice movement and the thickness of the ice. Autumn measurements in the Volga River were used to make certain modifications of the formula for cases in which the ice is solid on surface and underneath. Determinations made on both banks differ about 10 percent.-From SIPRE.

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46185. KUZNETSOV, FEDOR IVAN-OVICH. Skorostnoe stroitel'stvo lesovoznykh dorog. Moskva, Goslesbumizdat, 1956. 128 p. tables, illus., diagr., 26 refs. Text in Russian. *Title tr:* Rapid construction of logging roads,

Manual for constructors for lumbering enterprises. Various phases of road construction are described in detail: procurement of local materials, machinery and transport equipment; preliminary preparation of the ground (clearing, leveling, etc.); construction of bridges, drainage tunnels, reinforcing (piles) weak and soft ground; construction of a narrow-gauge railway; and finally (p. 98-111) rapid construction of road itself. Basic panels of various shapes assembled from logs, half-logs and boards, are described as to performance characteristics for automobile and heavy truck service. Mechanical equipment for carrying panels and road-assembly are outlined for various conditions. Reinforced perforated concrete panels are also mentioned. Copy seen: DLC.

46186. KUZNETSOV, TU. A. Eniseĭskiĭ krāzh. (Akademiā nauk SSSR. Institut geologicheskikh nauk. Laboratoriā geologii dokembriā. Trudy, 1952. vyp 1, p. 84–106, tables.) 8 refs. Text in Russian. Title tr.: The Yenisey ridge.

Stratigraphy of the ridge (55° N. 93° E.) is discussed with respect to the Precambrian formations. The characteristics reported by different investigators from 1910 to 1952 are correlated in two tables (p. 92–97). Magmatic complexes are also discussed with respect to the Precambrian. Formation of the Archean and lower Proterozoic metamorphic complexes is outlined with discussion of mineral associations of orthopyroxene, clinopyroxene, plagioclase, granite, also biotite and amphibole.

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KUZNETSOV, V. I., see Semenov, A. E., and V. I. Kuznetsov. Sibirskafa lukovafa mol'... 1956. No. 47888.

46187. KUZNETSOV, V. V. Nekotorye zakonomernosti vnutrividovoľ morfologicheskoľ i biologicheskoľ raznokachestvennosti na primere morskikh bezpozvonochnykh. (Zoologicheskiľ zhurnal, Aug. 1956. t. 35, no. 8, p. 1118–30, 4 illus., 6 tables.) 10 refs. Text in Russian. Title tr.: Some regularities of intra-specific morphological and biological variability of marine invertebrates.

Contains results of an ecological study of Littorina saxatilis, L. obtusata, L. littorea and Mytilus edulis, carried out on the littoral zone of the eastern Murman coast and the White Sea. The most important findings are summarized as follows: (1) The variability of external morphological and biological characteristics of individuals of various populations (group variability) also of individuals of the same population (individual variability) are determined by the influence of environmental factors. (2) The degree of individual variability is determined not only by the strength and duration of the environmental conditions but also by the life cycle of animals. (3) Fluctuation of variability is attributed to the peculiarities of the life cycle, especially the methods of reproduction (oviparous and viviparous). (4) Differences among the individuals of various populations increase with age. Individual differences within a population decrease with age, and this leads to stabilization of the population's characteristics. Tabular data are offered on the variability of some biological characteristics of Barents and White Seas invertebrates; also on changes of the growth rate and longevity of some molluses of Barents Sea.

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46188. KUZNEZTSOV, V. V. Rost pribrezhnykh morskikh makrofitov i potreblenie imi pitateľ nykh veshchestv v Barentsovom i Belom moríakh. (Botanicheskií zhurnal, Apr. 1956. t. 41, no. 4, p. 510–21, illus.) 22 refs. Text in Russian. Title tr.: Growth of littoral marine macrophytes and their consumption of nutrients in the Barents and White Seas.

Growth characteristics of Fucus vesiculosus, F. inflatus, F. serratus and Ascophyllum nodosum are discussed and tabulated. Estimate of their biomass, growth rate of 12 species (table 2-3) and their consumption of nitrogen are given. The role of macrophytes as source of food for many fish species is stressed.

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KUZNETSOVA, E., see Andronnikov, M., and others. L'extrême-nord soviétique . . . 1955. No. 43668.

KUZNETSOVA, T. K., see Khelsin, E. M., and T. K. Kuznetsova. Kholodostotkost'...kleshchei...1956. No. 45958.

KUZNETSOVA, V. G., see Antropova, V. V., and V. G. Kuznetsova. Chukchi. 1956. No. 43701.

46189. KVALE, ANDERS. Jordskjelv i Norge i 1942-44. Seismic bulletin, Bergen 1942-44. Bergen, A. S. John Griegs boktr., 1952. 72 p., 4 illus., map (Bergen, Norway. Universitetet. Aarbok, 1952. Naturvitenskapelig rekke, no. 19.) Text in Norwegian. Summary in English. *Title tr.:* Earthquakes in Norway, 1942-44. Seismic bulletin, Bergen 1942-44.

Includes (p. 22–23) data on an earthquake (IV. small) which took place on Dec. 26, 1944, in the vicinity of Vefsnfjorden, Nordland fylke.

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46190. KVAVIG, PER, 1917– . De norske sildundersøkelsers historie. (Naturen, Bergen, 1956. Årg. 80, nr. 7, p. 428–38.) Refs. in text. Text in Norwegian. *Title tr.:* History of the Norwegian herring investigations.

Salt-water fishery research has been carried on with government support since 1859-60. The leading investigators, study program, and recognition of species are discussed. With respect to north Norway, interest has centered chiefly on water temperatures, migration, spawning, and food supply, recognition and age determinations of the northern species, and causes of annual variations in amounts of fish on northern fishing grounds.

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KVIFTE, GOTFRIED INGOLF, 1914—, see Vegard, L., and G. I. Kvifte. An auroral spectrogram and the results . . . 1951. No. 48705.

46191. KYTE, ROBERT M. Technological studies on the processing of sealions. (Commercial fisheries review, U. S. Fish and Wildlife Service, June 1956. v. 18, no. 6, p. 1–7, illus., tables.) 4 refs.

As a result of complaints on depredation among Alaskan commercial fishes caused by Steller's sea lion, studies were made of the animal: behavior; yields in blubber, meat, liver, etc.; composition of meal prepared from the animal; analysis of various parts, particularly for nutrients; approximate composition of carcass; value of oil and hide, etc. Copy seen: DI.

46192. L. Akkavare. (Svenska turistföreningen, Stockholm, Årsskrift, 1898, p. 431–32, illus.) Text in Swedish. Title tr.: Akkavare.

This mountain, though reportedly only 1881 m. high and surrounded by lowland, maintains a glacier. It is easily accessible by boat from Porjus (approx. 67° N. 20° E.) on the Lule River, and is recommended to tourists.

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46193. LABORIT, H., and P. HUGUE-NARD. Essai d'obtention des conditions biologiques nécessaires au maintien de l'optimum fonctionnel de l'homéotherme aux basses températures. (Anesthésie et analgésie, 1956. t. 13, no. 4, p. 640-55, illus., table) 24 refs. Text in French. Summary in English. Title tr.: Securing biological conditions necessary to maintain a functional optimum in the homeotherm at low temperature.

Description of authors' method of obtaining hypothermia by starting with a "lytic cocktail" till 30° body temperature is reached, and then proceeding with bleeding, intraperitoneal dextrose, intravenous dextrose with insulin, cal-

cium magnesium, etc. The physiological advantages of the method are discussed.

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46194. LABORIT, H., and P. HUGUE-NARD. Étude expérimentale du conditionnement ionique aux basses températures. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 1, p. 145-47.) 6 refs. Text in French. Title tr.: Experimental study on ionic conditioning to low temperatures.

Authors consider the progressive increase of differential pressure below 27° C. body temperature as a sign of ionic disturbances and membrane polarization. These are due to the increase in intracellular potassium and a fall in extracellular Na and K, and continue to maintain spontaneous respiration and reflexes.

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46195. LABORIT, H. Quelques notions sur l'hibernation artificielle. (Concours médical. Dec. 1955. année 77, no. 50, p. 4649–56, table.) Text in French. *Title tr.:* Some notions on artificial hibernation.

Contains a discussion of the physiological value of temperature homeostasis; of lack and presence of temperature regulation, etc. This is followed by accounts of controlled hypothermia (obtained with the aid of neuroplegic drugs and by endocrine inhibition), and of functional thermal optimum.

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46196. LABORIT, H. Sobre el significado que se debe atribuir a los métodos de hibernoterapia. (Medicina panamericana, Aug. 1956. v. 7, no. 2, p. 101–112, illus., tables.) 34 refs. Text in Spanish. Title tr.: Significance attributable to methods of hibernotherapy.

Contains a study on cellular physiology: the action of polarizing and depolarizing agents, of K and Na<sup>+</sup> ions; the effects of blood loss; ionic conditions and body temperature; some properties of Ca<sup>++</sup> and Mg<sup>++</sup> ions, etc.; organic reaction to stress in health and disease; "lesional" and "reactional" syndrome; reactional inhibition through pharmacological hypothermia; deep hypothermia; practical application of lowered body temperature.

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46197. LABUNTSOV, A. N. Mineralogicheskafa s''emka tsentral'nykh chastel Khibinskogo massiva; mestorozhdenifa fsirkona, katapleita i fersmanita. (In: Khibinskie apatity, 1933. t. 6, p. 202–209, 4 illus.) Text in Russian. Title tr.: A mineralogical survey of central part of the Khibiny massif; deposits of zirconium, catapleite and fersmanite.

Reports on work of an Academy of Sciences party. The zirconium ore contains 65 percent zirconium dioxide (ZrO<sub>2</sub>), and catapleite 30 percent ZrO<sub>2</sub>. The zirconium deposits are described and distribution illustrated, also that of catapleite. Find of a fersmanite deposit is reported and its distribution shown.

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46198. LABUTIN, TV. Materialy po pitanifü zaitsa-belfäka v Verkhofän'e. (Moskva. Moskovskii gosudarstvennyi pedagogicheskii institut im. V. I. Lenina. Uchenye zapiski, 1956. t. 96, vyp. 6, p. 77-86, tables) 8 refs. Text in Russian. Title tr: Materials on the food of the snowshoe hare in the Verkhovansk area.

Account based on material collected during May-August and October-November, with special emphasis on winter food. The methods applied were by estimation of trees, brushes and grasses utilized for food, by examining stomach contents, and occasionally the burrows. Food in October-November consisted of wood, grass and berries.

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46199. LABUTIN, IU. V. [O gnezdovanii v Verholan'e kronshnepa-malûtki. Gnezdovanie ptils; obzor postupivshikh v redaktsilû statel i zametok]. (Priroda, Nov. 1956. god 45, no. 11, p. 102). Text in Russian. Title tr: On nesting of the dwarf curlew in the Verkhoyansk region; nesting of birds, a review of papers and notes received by the editorial board.

Contains observations made in summer 1954-55 on nesting of Numenius borealis. The nests, 11-12 cm. diameter and some 3 cm. deep, are usually built on the ground, on southern slopes, river valleys, among young polar birches and willows. Protection of this rare bird, found only in northern Siberia, is recommended.

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46200. LaCHAPELLE, EDWARD R. The centrifugal separation of free water from melting snow. (Journal of glaciology, Oct. 1956. v. 2, no. 20, p. 769-71, illus. (p. 763), graph.) 2 refs.

"A simple, hand-operated snow centri-

fuge consisting essentially of a 500-cc. stainless steel sample tube fastened at the end of a 2-m. cord was tested and found reasonably satisfactory. Two principal sources of error in this method result from an increase of free water in the sample due to melting and retention of the water on snow particles by surface tension. It is possible that these may tend to cancel each other in actual field operations."—SIPRE. Tests were part of a glaciological project supported by the University of Washington and the Arctic Institute of North America.

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**46201.** LACHELT, THEODORE C. Suggested uses of radioisotopes in wildlife field investigations. (*In:* Alaskan Science Conference . . . 1952. Proceedings, *pub.* 1954. p. 213–14.)

Contains a discussion of the causes contributing to the spreading use of isotopes; required qualities for isotopes used in tagging, especially such for long-term or generation-to-generation in vestigations; advantages of iron-55; tracer elements in food web studies; etc.

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46202. LACHENBRUCH, ARTHUR H. Effect of the ocean on permafrost temperatures. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1714.)

Abstract of paper submitted for Society meeting in Minneapolis, Oct. 31-Nov. 2, 1956. Temperature difference between land surface and ocean bottom, thermal properties and moisture content of sediments, also past changes of climate and shore lines determine ground temperatures near ocean edge. Theoretically, permafrost more than 100 ft. beneath ocean bottom is not to be expected generally more than a mile offshore. Geothermal effects of water bodies may explain anomalously large outward earthheat flow at Resolute Bay, Cornwallis Island. Copy seen: DGS.

46203. LACHENBRUCH, ARTHUR H. Method of estimating the thermal influence of heated buildings on permafrost. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1808.)

Abstract of paper presented at the Seventh Alaskan Science Conference (AAAS), Juneau, Sept. 27–30, 1956. "A formal solution has been obtained for the problem of heat conduction in a homogeneous semi-infinite medium in

which the temperature of the surface varies sinusoidally with time and the mean temperature and amplitude of the variation are different within and outside an arbitrarily shaped region of the surface." Results can be applied to study of ground temperatures disturbed by bodies of water or heated buildings.

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46204. La COSTE, RICHARD. Northern buffer defends Canada. (Canadian aviation, May 1956. v. 29, no. 5, p.

42-43, illus.)

Contains a brief account of U. S. Air Force interceptor and fighter bomber squadrons based at Ladd, Eielson, and Elmendorf in Alaska. These forces conduct regular joint exercises with the Canadians as well as reconnaissance patrols. U. S. forces are equipped with F-89 D Northrop intercepters and Sabre jets; the Canadians rely principally on the CF-100.

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LAFOND, A., see National Research Council of Canada. Associate Committee on Soil and Snow Mechanics. Proceedings . . . Eastern Muskeg . . . Meeting . . . 1956. 1956. No. 46943.

46205. LAFOND, EUGENE CECIL, 1909 - Physical oceanography and submarine geology of the seas to the west and north of Alaska. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 98–104, graph,

text map.) 18 refs.

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)

Oceanographic expeditions to Bering, Beaufort, and Chukchi Seas, 1934–1950, are noted. Submarine topography, bottom sediments and their sources are stated, and account is given of the horizontal and vertical temperature and salinity distribution, water mass characteristics and origin, currents, and ice conditions. Paucity of studies so far in this area of unique variety is stressed.

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46206. LAGERBERG, TORSTEN, 1882- . Sveriges decapoder. Göteborg, 1908. x, 117 p. incl. 5 plates, tables, (Göteborgs kungl. vetenskaps- och vitterhets-samhälle. Handlingar, 4. följden, häft. 11.) 29 refs. Text in Swedish. Title tr.: Decapods of Sweden.

Systematic list with synonyms, description, data on provenance of Swedish specimens, and general distribution; photo-illus. are appended. Some 36 species (in 13 families) are represented

in the Arctic, several of them circumpolar. Analysis of distribution (p. 106-109) shows 8 species truly arctic, 25 boreo-arctic, and 70 boreal.

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46207. LAGERSPETZ, KARL. Sarvikuonokkaan (Oryctes nasicornis L.) esiintymisestä Suomessa vuosina 1938–1949. (Suomen hyönteistieteellinen aikakauskirja, 1950. v. 16, no. 3, p. 125–28.) 5 refs. Text in Finnish. Summary in English. Title tr.: On the occurrence of Oryctes nasicornis L. (Col., Scarabaeidae) in Finland from 1938 to 1949.

Lists finds of this lamellicorn beetle by provinces, including Kemi and Petsamo regions of Finnish Lapland. The species is typically anthropochorous, spreading especially by ships and railways; its rapid dissemination may be influenced also by the recent warming of climate. Its ordinary habitats are rubbish-heaps and piles of wood refuse and sawdust which remain warm in winter.

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46208. LAGET, P., and others. Effets de l'ion calcium et du gaz carbonique sur l'excitabilité des nerfs de batraciens soumis à des variations lentes de température. (Société de Biologie, Paris. Comptes rendus, 1955. t. 149, no. 23-24, p. 2160-63, illus.) 3 refs. Text in French. Other authors: J. Guérin and J. Vannier. Title tr.: Effects of calcium ions and of carbon dioxide on the excitability of frog nerves submitted to slow variations in temperature.

The previous experiment (No. 46211) in a broadened modification is presented and analyzed. The temperature range was again 2° to 27° C. The differences in results from the preceeding investigation are discussed. *Copy seen:* DNLM.

46209. LAGET, P. Effets des variations lentes de température sur les nerfs peripheriques. (Journal de physiologie, 1956. t. 48, no. 3, p. 594–97, illus.) 5 refs. Text in French. *Title tr.:* Effects of slow variations in temperature upon

the peripheral nerves.

Effects were studied of cyclic variations between 2° and 27° C. in isolated nerves of frogs, and between 12° and 40° in those of rabbits. Speed of propagation as depending on temperature, the phenomena of thermal "hysteresis" and "overshoot" were followed during both the cooling and rewarming phase, and differences noted between the poikilotermous and homeothermous preparation.

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46210. LAGET, P., and others. Effets des variations thermiques lentes sur la vitesse de conduction des nerfs de batraciens. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 2, p. 262-64, illus.) 2 refs. Text in French. Other authors: J. Vannier and J. Guérin, Title tr.: Effects of slow thermal variations on the speed of nervous conduction in frogs.

A study of isolated frog nerves submitted to slow, regular temperature change in the range of 1° to 27° C. in an atmosphere of pure oxygen, or of 95 percent O<sub>2</sub> + 5 percent CO<sub>2</sub>. The relation of cooling, rewarming and "thermal hysteresis" is analyzed and discussed.

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46211. LAGET, P., and J. GUÉRIN. Quelques effets des variations thermiques lentes sur les propriétés des nerfs isolés. (Société de Biologie, Paris. Comptes rendus, 1955. t. 149, no. 23–24, p. 2157–59, illus.) 5 refs. Text in French. Title tr.: Some effects of slow thermal changes on the properties of isolated nerves.

Contains an analysis and discussion of the effects of slow, regular temperature change on the excitability of isolated frog nerve. The preparation was first cooled from room temperature down to 2° C. and subsequently warmed up to 27° C. The obtained graph is discussed in detail.

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La GORCE, JOHN OLIVER, 1880–, see National Geographic Society. Map of Alaska. 1956. No. 46940.

46212. LaGOW, H. E., and J. AINS-WORTH. Arctic upper-atmosphere pressure and density measurements with rockets. (Journal of geophysical research, Mar. 1956. v. 61, no. 1, p. 77-92, diagrs., graphs, map, tables.) 19 refs.

Data were obtained from four balloon-launched Deacon rockets in the Canadian Arctic during the summers of 1953 and 1954. The instrumentation, flight analysis, and discussion of the results are given. Atmospheric density profiles at 62° and 74° N. lat. in the 25- to 45-km. region were found to be approximately the same as those obtained at White Sands (33° N.). The measured pressures

and computed temperatures were up to 30 percent higher in the 30- to 45-km. region but approximately equal at 70 km. to values at 33° N. A high lapse rate indicated in the region 44 to 60 km. at 74° N. lat. Copy seen: DLC.

46213. LAGUTA, A. Kartofel' na Krainem Severe. (Kolkhoznoe proizvodstvo, Apr. 1956. god 16, no. 4, p. 44.) Text in Russian. *Title tr.:* The potato in the far North.

Account of the successful growing of potato and cabbage on a collective farm in the Katanga District of Irkutsk Province; in view of the severe climate, the area is regarded as belonging to the far North.

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46214. LAINÉ, P., and others. Hypothermie centrale rapide obtenue chez le chien au moyen d'un échangeur thermique agissant au niveau d'une circulation artificielle extra-corporelle. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 1, p. 116-18, illus.) 2 refs. Text in French. Other authors: F. Zacouto, E. Coraboeut, R. Saumont, and R. Gaillard. Title tr.: Rapid central hypothermia obtained in the dog by a heat exchanger acting through artificial extra-corporeal circulation.

Contains description of apparatus used and the results of its application; course of temperature in various central organs as well as pulse and arterial pressure are reported. The animals withstood temperature changes 1–2° C./min. without ill effect on the vital systems.

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46215. LAINE, UNTO, and others. Havaintoja Utsjoen pitäjän länsiosan kasvistosta. (Suomalainen eläin- ja kasvitieteelinen serua Vanamo. Tiedonannot (Archivum), 1954. v. 9, no. 2, pub. 1955, p. 120-35, 6 illus.) 15 refs. Text in Finnish. Summary in English. Other authors: L. Lindgren and Y. Makinen. Title tr.: Observation on the flora of western Utsjoki.

Contains a general description of the investigated area between 69°20′ and 69°30′ N. followed by an annotated list of 310 vascular plants, of which 13 are new to the biogeographical region of Inari Lappmark. Notes on habitat and frequency are supplied. "In general, the flora of the Utsjoki area displays more variety than do other regions in this part of Lapland, which is chiefly due to the

calcicolous and southern species found in the Kevojoki Canyon."

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46216. LAKEMAN, RIENK. Geology and petrology of the Brandsfjäll region. Swedish Lapland. Academisch Proefschrift, Universiteit van Amsterdam. Assen, Van Gorcum & Comp. N. V., 1952. 95 p., 33 illus., 2 maps, 5 tables. (Amsterdam. Universiteit, Geologisch Instituut. Mededeling no. 188.) 29 refs. Summary in Dutch

The region investigated (approx. 66°05' N. 15° E.) with the Norwegian frontier to the north, can be reached by the motor road from Tärna, in the upper Ume basin in Sweden, to Mo i Rana in Norway. Most of the area is above the tree line, has thin soil, poor vegetation, and bedrock well exposed. Below the tree line, outcrops are confined largely to stream banks. Unintegrated stream flow, resulting from recent glacial activity, is the common drainage feature in this area which is on the Baltic-Atlantic divide. It is climaxed by a lake with an eastern outlet ultimately connecting with the Atlantic and a western outlet to Baltic drainage. In the northeastern section, where limestone is found, there is karst topography, with sinkheles and blind valleys, and a stream that runs underground for several hundred meters. This report is essentially on the bedrock geology: the several units are described, petrography and petrology of the rocks is presented, with a brief

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LAKEN, B., see Ralli, E. P., and others. Effects of vitamin supplementation . . . cold stress . . . 1956. No. 47509.

summary of the geologic evolution.

LAKHNO, R. P., see Arodzero, A. M., and R. P. Lakhno. Tekhnicheskoe obsluzhivanie . . . 1954. No. 43752.

46217. LAKTIONOV, ALEKSANDR FEDOROVICH. Iz "butylochnot pochty" ledokol'nogo sudna "Taĭmyr." (Vsesofiznoe geograficheskoe obshchestvo. Izvestiâ, May-June 1956. t. 88, no. 3, p. 302.) Text in Russian. *Title tr.:* From the "bottle-mail" of the icebreaker Taĭmyr.

A drift bottle cast by the Hydrographic Expedition on the Talmyr and Valgach in Aug. 1913, at 70°32′ N. 164°27′ E. was found in Aug. 1954 in the mouth of Kurodagina (Kurdyugina) River on the East Siberian Sea coast.

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46218. LAKTIONOV, ALEKSANDR FEDOROVICH, and V. V. FROLOV. Na dreifuūshchikh l'dakh. Moskva, Izdvo "Morskoī transport," 1955. 88 p. illus., ports., diagrs., maps incl. 2 fold. Text in Russian. Title tr.: On the drifting ice.

The Soviet drifting stations, North Pole 1-4 are described in turn (p. 13-58): their objectives and organization, personnel, equipment, and re-supply by airlift; the activities, main events and achievement. A sketch of the principal previous polar expeditions introduces this account (p. 5-12), and a concise exposition of results is offered in conclusion (p. 54-88): covering the bathymetric, geological, meteorological, aerological, oceanographic, glaciologic, geomagnetic, botanical and zoological observations. The four drift courses are mapped, as are results of soundings. Joint author, V. V. Frolov, is Director of the Arctic Institute, Leningrad. Copy seen: DLC.

46219. LAKTIONOV, ALEKSANDR FEDOROVICH. Severnyĭ políûs; ocherk istorii puteshestviĭ k tsentru Arktiki. Moskva, Izd-vo "Morskoĭ transport," 1955. 472 p. ports., illus., maps. (1 fold.) 60 refs. Text in Russian. Title tr.: The North Pole; historical sketch of expeditions to the Central Arctic.

New (third?) edition of Arctic Bibliography, No. 9612 and 23615, revised and brought up to date by accounts of recent explorations: the Soviet High Latitude Expeditions, 1948-50, and drifting stations "North Pole-2, -3, -4, and -5," (p. 303-340); and Western investigations 1945-54 (p. 341-46). Indexes of geographical and personal names (p. 443-65) and of drifting stations, vessels and airships (p. 466-68) are appended.

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46220. L'ALLEMAND, H. Über den Einfluss der gesteuerten physikalischen Hypothermie auf die Blutgerinnungsfaktoren. (Langenbecks Archiv für klinische Chirurgie vereinigt mit Deutsche Zeitschrift für Chirurgie, 1956. Bd. 284, p. 241–45, illus.) Text in German. Title tr.: The effect of controlled physical hypothermia upon blood coagulation factors.

Account of investigation of the individual coagulation factors in the dog at body temperatures of 38° (normal), 30° and 25° C. and after rewarming. It is concluded that during physical hypothermia there is a decline in coagulation

potential; the practical aspects of these results are discussed.

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46221. LAMB, GEOFFREY FREDER-ICK. Franklin, happy voyager; being the life and death of Sir John Franklin. London, Benn, 1956. 293 p. 15 illus.,

port., 3 text maps. 25 refs.

A biography stressing the achievements of Franklin's earlier expeditions and administrative missions rather than his last arctic voyage and its aftermath. His early training at sea, career as a naval officer, explorations in search of the Northwest Passage 1819–1822 and 1825–1827, governorship of Tasmania 1836–1844, and briefly, his final voyage to the Canadian Arctic 1845–1847 and the search expeditions 1848–1859 are described.

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LAMB, HUBERT H., see Robin, G. de Q., and others. The future . . . glaciology . . . 1956. No. 47616.

46222. LAMBE, THOMAS WILLIAM, 1920 Modification of frost-heaving of soils with additives. (National Research Council. Highway Research Board. Bulletin, 1956. no. 135, p. 1–23, illus., graphs, 10 tables.) 13 refs.

Describes three years' experimentation by the writer and personnel of the Arctic Construction and Frost Effects Laboratory, U. S. Army. Fifteen soils were tested and about 40 additives; the latter may be grouped according to their action in soil as: void pluggers and cements, aggregants, dispersants, and "water-proofers." A number of these, especially dispersants and polyvalent cation salts, merit further laboratory evaluation. A small-scale field test showed a laboratoryproved dispersant to be effective under field conditions, including two freezing cycles. Four freeze-thaw cycles on four soils tested in the laboratory also had no adverse effects. Copy seen: DGS.

46223. LAMBERT, A. F. The international boundary. (Canadian surveyor, Dec. 1955. v. 12, no. 10, p. 676-91,

illus., maps.) 14 refs.

A brief history is presented of the development of boundary delimitations between the U. S. and Canada, and between Canada and Alaska. The present boundaries represent the results of various treaties, negotiations, and arbitrations during the period 1783–1925. The

Alaskan boundary extending 674 mi. from Mt. St. Elias along the 141st meridian to the Arctic Coast is probably the longest straight-line international boundary in the world.

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46224. LAMBERT, RICHARD STANTON, 1894– . The world's most daring explorers; 38 men who opened up the world. Illus. by Robert Kunz. New York, Sterling Pub. Co., 1956. 168 p. illus., text maps.

This account for children includes brief description of the voyages of the Norsemen to Greenland, Sebastian Cabot to the eastern Canadian Arctic, Cook and Bering to the Gulf of Alaska and Bering Sea; the search for the Northwest Passage and the voyages of Frobisher, Davis, Hudson, Baffin, and Franklin; the expeditions of Peary and the discovery of the North Pole.

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46225. LAMBRECHTS, FINN, 1900-1957. Svalbardflyvningen 1935. (Norsk militaert tidsskrift, June 1955. årg. 6, nr. 5, p. 133-39, +, 4 illus.) Text in Norwegian. Reprinted from the journal "Fly", nr. 7, 1935. *Title tr.:* The Svalbard flight 1935.

Recounts the first round-trip flight, Norway-Svalbard. The aircraft, a reconnaissance seaplane Type MF11 with 575 HK Panther motor, personnel, speed, distances, fuel capacity and other essential features are stated. Events of the journey are summarized, weather and weather service assistance described, with comment on the functioning and qualifications of various items of equipment.

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LAMMERT, HEINZ, see Stein, E., and H. Lammert. Kältereflex und Kreislauf. 1955. No. 48189.

46226. LAMONT, S., and others. Hypothermia. (Medicine illustrated, Oct. 1955, v. 9, no. 10, p. 634-35, illus.) 7 refs. Other authors: F. G. Wood-Smith and J. Beard.

Contains information on temperature and thermoregulation; main physiological aspects of hypothermia; principal advances in animal and human experimental hypothermia; hypothermia and O<sub>2</sub>-consumption; medical application.

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46227. LAMPERT, H. Balneologische Aufgaben in Island. (Polarforschung,

May 1956. Jahrg. 24, Heft 1-2, p. 295-97.) Text in German. *Title tr:* Balneologi-

cal tasks in Iceland.

Account based on two trips by invitation of the Iceland Government, with the aim to ascertain the possible utilization of the hot springs for medical purposes for both local and foreign patients. Hundreds of steam, water and mud wells were examined and their therapeutic value is indicated. Hveragerdi in the south, some 60 km. from Reykjavik, is described and proposed as an ideal place for developing a modern spa.

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46228. LAMPHERE, EDWIN M. Operation of experimental septic tank units under subarctic conditions. (*In:* Alaskan Science Conference . . . 1952. Proceedings, *pub.* 1954, p. 68–71.)

Results of experiments with four experimental septic tank units at College, Alaska, in 1950 are presented. Three of the units consisted of septic tanks with tile disposal fields, and the fourth of a septic tank and sand filter. Provision was made for heating both the tanks and the fields. Results of the operation of these units showed that the cost of midwinter starting is too high for the average Observations on the sand house owner. filter indicated that some freezing occurred near the most exposed side. The importance of an undisturbed snow cover over the filter effluent trench is indicated. Tank efficiency is considered satisfactory. Copy seen: DGS.

46229. LANDAUER, J. K., and F. ROYSE. Energy of snow compaction and its relation to trafficability. Wilmette, Ill., Oct. 1956. 11 p. illus., diagrs., tables. (U. S. Army. Corps of Engineers. Snow Ice and Permafrost Research Establishment. Research paper 14.) 6 refs.

Penetrometer tests were performed on natural snow near Houghton, Mich., on Jan. 9 and Mar. 7, 1956. Work per unit area was found to be independent of the penetrometer area and appeared to be greater at low and high velocities than at intermediate rates. The power used to compact snow is much less than that used by over-snow vehicles which leaves unanswered the question of the observed high energy losses. *Copy seen:* CaMAI.

46230. LANDAUER, J. K., and H. H. PLUMB. Measurements on anisotropy of thermal conductivity of ice. Wilmette,

Ill., Apr. 1956. 4 p. diagrs., tables. (U. S. Army. Corps of Engineers. Snow Ice and Permafrost Research Establishment. Research paper 16.) 5 refs.

"A comparison technique is used to measure the anisotropy in the thermal conductivity of ice. Samples of laboratory grown monocrystals, glacial monocrystals, and polycrystalline commercial ice were studied. No effects due to the grain boundaries are observed. experiments indicate that the conductivity in the direction of the c-axis may be about 5 percent greater than normal to it. The probable error in the results is about 2 percent. Analysis of the data leads to the conclusion that, if a difference in conductivity exists, it is less than 8 percent. More accurate experimentation is necessary to specify the anisotropy with greater precision."-Authors' ab-Copy seen: CaMAI.

46231. LANDERGREN, STURE. Om apatitjärnmalmernas bildningsbetingelser. (Geologiska föreningen, Stockholm. Förhandlingar, 1949. bd. 71, häfte 2, no. 457, p. 293–302.) 12 refs. Text in Swedish. Title tr.: On the conditions of development of apatite iron ores.

In contrast to view (expressed by B. Asklund, q. v.) that iron ores such as those found at Kiruna originate from certain magmas, Dr. Landergren holds that the iron enrichment results from both endogenic and exogenic processes in the orogenic cycle of the upper lithosphere. He cites supporting geochemical evidence, takes exception to some of Asklund's statements, and suggests further consideration and discussion.

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46232. LANDMARK, KÅRE, 1912— . Andøya som geologisk billedbok. Tromsø, Oct. 1955. 15 p. 4 illus., 3 diagrs., text map. (Ottar, nr. 6.) Text in Norwegian. *Title tr.:* Andøya as a geologic picturebook.

On Andøya (69° N. 16° E.) in northern Norway, a synclinal formation has preserved sedimentary deposits of clay and sandstone. In the latter is Norway's only coal, with layers up to a meter in thickness, and fossils including ammonites, belemnites, and the only ichthysaurus known in Norway. The location, deposits, and fossils are described.

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46233. LANDMARK, KÅRE, 1912-En fisk som er naer 50 mill. år gammel. (Ottar, Tromsø, Feb. 1955. nr. 3, p. 20–21, illus.) Text in Norwegian. *Title tr.:* A fish which is nearly 50 million years old.

This unusually good fossil of *Pseudamia heintzi* of Tertiary age was found at Cape Heer, east of Grønfjorden, Vestspitsbergen, in 1910. It closely resembles the modern *Amia* of Central and North American freshwaters, and was described by J. P. Lehman (No. 23735).

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46234. LANDMARK, KÅRE, 1912-. Fra guders spill til naturkrefters verk. (Ottar, Tromsø, Mar. 1955. nr. 4, p. 5-7, 2 illus.) Text in Norwegian. *Title tr.:* From the play of gods to the work of natural forces.

Two erosion forms are described: differential weathering in layered limestone and shale, and stack development resulting from jointing in rocks on the seacoast. Both are common in northern Norway; for both fantastic explanations are often given by primitive people.

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46235. LANDMARK, KÅRE, 1912– . Litt om svovelkis. (Ottar, Tromsø, Feb. 1955. nr. 3, p. 22–23, illus.) Text in Norwegian. *Title tr.:* A little about pyrites.

Scientific description of a common, north Norway mineral. Bjørkåsen in Ofoten, the largest pyrite mine in northern Norway, produces 100,000 tons of ore annually. Copy seen: DLC.

46236. LANDMARK, KÅRE, 1912—. Tromsø museum og den vitenskapelige forskning. (Ottar, Tromsø, Feb. 1955. nr. 3, p. 5–8.) Text in Norwegian. *Title tr.*: Tromsø Museum and scientific research.

Describes the purpose and functions of the Museum founded in 1872: its local, educational activities and promotion of regional research in the natural and social sciences; its (380) publications (not listed) and library are noted.

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46237. LANEUVILLE, JEAN. Porosity and adsorptivity in iron ores from New Quebec compared with standard ores. Quebec, 1953. 22 p. diagr., 3 graphs, 4 tables. (Quebec, Province. Dept. of Mines. Laboratories Branch. Preliminary report, no. 277.) 10 refs.

Eight samples of limonitic hematite from northern Quebec were compared with a magnetite from Kiruna, northern Sweden, and three limonitic hematites from other parts of North America. Apparatus and procedure are described, and results are discussed. "Generally speaking, porosity in [northern Quebee] ores is greater than in the other ores... Measurements of porosity permitted establishing a comparative scale of ore reductibility. For equal surface area of pores, the ores adsorb carbon dioxide in proportion to their content of uncombined water... Carbon dioxide is selectively adsorbed by iron oxide gels and limonitic substances."

Copy seen: CaMAI.

46238. LANG, ARTHUR HAMILTON, 1905— . Our uranium resources. (Canadian mining journal, June 1956. v. 77, no. 6, p. 71–76, text map, table.)

Contains brief history of uranium discovery in Canada, description of major uranium minerals, types of deposits, distribution of uranium occurrences, number of discoveries and mines, grades of ores, treatment of ores, products, marketing, and future outlook. Includes references to deposits at Great Bear Lake and elsewhere in Mackenzie District, and notes occurrences of pitchblende reported from the Makkovik-Seal Lake region, north of Goose Bay, Labrador.

Copy seen: DGS.

46239. LANG, ARTHUR HAMILTON, 1905—. Prospecting in Canada. 3d ed. Ottawa, Queen's Printer, 1956. xiii, 401 p. 95 illus. (7 col.) on 74 plates, 3 text maps, diagrs., cross-sections, tables. (Canada. Geological Survey. Economic geology series no. 7.) approx. 250 refs.

Basic handbook, almost completely rewritten. Deals with past, present and future prospecting, fundamentals of geology, minerals and rocks, mineral deposits and fuels. Canadian geology is outlined by region, nine in the Arctic and sub-Arctic. Instruction facilities in geology, mining and prospecting, including Northwest Territories and Yukon, are given. Equipment and travel in isolated regions, methods of prospecting, geophysical prospecting (in detail), exploring and appraising mineral deposits are described. Specific metals and minerals are noted, placer and small-scale lode mining, mining laws, etc. are dealt with. Selected references (some annotated) follow each chapter. Appended are table of elements and other aids, lists of government agencies, periodicals, etc., methods of tracing float in glacial drift. References to arctic and subarctic areas occur throughout; excellent photographs are included. *Copy seen:* DGS.

46240. LANG, JAMES D. Construction and maintenance of airfields in the far North regions. [Washington, D. C.] 1956. 2 p. l., 9 p. (In: U. S. Office of Naval Operations. The dynamic North, v. 2, no. 11.)

Contains a general review of construction and operating procedures for ice landing strips, light airfields, and heavy airfields in the Arctic. Preliminary activities described include reconnaissance, site selection, planning and design.

Copy seen: DLC.

LANGANS, FRANTS I., see Karal'kin, P. I. Ob arkhive . . . Spasskogo. 1956. No. 45891.

46241. LANGEWIESCHE, WOLF-GANG. The polar path, where every direction is south. (Harper's magazine, Nov. 1956. v. 213, no. 1278, p. 70–76, text map.)

Impressions from a Scandinavian Airlines System crew-training flight over the trans-polar Stockholm-Tokyo route, Apr. 1956: appearance of the pack ice in the Arctic Basin, flying weather, navigation using polar grid and gyroscope; comments upon sovereignty, air bases.

Copy seen: DLC.

LANGHAM, WRIGHT HASKELL, 1911-, see Lushbaugh, C. C., and others. The production of poikilothermia . . . 1956. No. 46497.

**46242.** LANGLEBEN, M. P. The plan pattern of snow echoes at the generating level. (Journal of meteorology, Dec. 1956. v. 13, no. 6, p. 554–60, illus., diagrs.) 11 refs.

"A technique of obtaining constantaltitude upper-level maps from a series
of PPI photographs at progressively increasing elevation angle is described.
These maps were used principally to study
the snow echo pattern at the generating
level. The generating elements are
rather shapeless with an average dimension of about 1 mi. Continuous
observations on several snow cells for
1-2 hr. did not show a decaying stage
which indicates there must be a constant
supply of water vapor and/or cloud
to grow the snow crystals."—SIPRE.

Copy seen: DLC.

46243. LANGLET, V. Några erfarenhetsrön, och råd för turister i Lapplands högfjäll. (Svenska turistföreningen, Stockholm. Årsskrift, 1900, p. 312–26.) Refs. in text. Text in Swedish. *Title tr:* Some observations from experience, and advice for tourists in the Lapland mountain region.

Comprehensive summary of equipment and supplies needed for two weeks' journey: tenting equipment and clothing; provisions; pack, cooking and fishing gear; tools, scientific instruments, maps, protection against insects; also personal supplies, etc. Data on weight, cost, variety, packing, porters, are included.

Copy seen: DGS.

46244. LANGLO, KAARE. On the amount of atmospheric ozone and its relation to meteorological conditions. Oslo, Grøndahl & søn, 1952. 48 p. diagrs., maps, tables. (Geofysiske publikasjoner, v. 18, no. 6.)

Ozone measurements, made for varying periods from 1926-1949 at a number of Norwegian stations including Dombås, Oslo, Tromsø, and Arosa, as well as several British stations, are analyzed. A brief description is given of the optical method of total ozone measurement. Annual and latitudinal variations in the mean ozone are discussed. The problems of ozone distribution and irregular variations due to various meteorological phenomena are also discussed. Selected upper-wind data for Ocean Weather Station "M" (66° N. 02° E.) are included to illustrate observed winds in the ozone incline region. A comparison between ozone data and observance of mother-ofpearl clouds in Norway from 1939-1949 indicates that these clouds are observed on days with lower than normal ozone values. Copy seen: DWB.

46245. LANGLOIS, CLAUDE. Le McGill Sub-Arctic Research Laboratory. (Revue Canadienne de géographie, Jan.— Mar. 1956. v. 10, no. 1, p. 53–55, illus.) Text in French.

Laboratory established by McGill University, Dept. of Geography, near the new town of Schefferville, Knob Lake, northern Quebec (54°48′ N. 66°48′ W.); officially opened Sept. 22, 1954, resident personnel headed by R. N. Drummond. The building and its research facilities are described. Station also accommodates a Canadian Dept. of Transport meteorologist and the Dart-

mouth College Ionospheric Research Station which will take part in the IGY. program, 1957-1958. Copy seen: DGS.

46246. LANGSAETER, ALF. Landsskogtakseringen hittil og heretter. Hvordan bør den nye landsskogtakseringen legges an? (Norsk skogbruk, Nov. 1955. årg. 1, nr. 8, p. 312–15, illus.) Text in Norwegian. *Title tr.:* Forest taxation hitherto and hereafter. How should the new forest taxation be imposed?

Discusses rational taxation of forested areas in Norway, with reference to exemption of areas where forestry is of minor importance. These areas include the northern provinces where birch is common but conifers are of little consequence.

Copy seen: DA.

46247. LANKIALA, EERO GUNNAR. Die Baptria tibiale-Rassen (Lep., Geometridae) Finnlands. (Suomen hyönteistieteellinen aikakauskirja, 1937. v. 3, no. 3, p. 121-31, 4 illus. text map.) Text in German. Title tr.: Races of Baptria tibiale (Lep., Geometridae) in Finland.

Contains descriptions of B. t. ssp. fennica n. ssp. and B. t. ssp. borealis n. ssp.; the latter living on Actaea erythrocarpa in Salla in the Kuusamo region (66°45′ N.) and spreading to Russian Lapland.

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46248. LANKIALA, EERO GUNNAR. Coleophora aereipennis Wck. (Lep., Coleophoridae) in Finnisch-Lappland gefunden. (Suomen hyönteistieteellinen aikakauskirja, 1938. v. 4, no. 2, p. 122.) Text in German. Title tr.: Coleophora aereipennis Wck. (Lep., Coleophoridae) found in Finnish Lapland.

Records find of this lepidopter on a birch (Betula nana) in the alpine region of Enontekiö in July 1936.

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46249. LANKIALA, EERO GUNNAR. Pyrameis atalanta L. (Lep., Nymphalididae) Enontekion Lapissa. (Suomen hyönteistieteellinen aikakauskirja, 1955. v. 21, no. 4, p. 196.) Text in Finnish. Summary in German. Title tr.: Pyrameis atalanta L. (Lep., Nymphalididae) in Enontekiö Lapland.

Records find of this lepidopter at Makkina, approx. 68°29' N.

Copy seen: DA.

46250. LANTIS, MARGARET, 1906—. Social anthropological research in Alaska: opportunities and obstacles. (*In*: Alas-

kan Science Conference . . . 1952. Proceedings, pub. 1954. p. 155-60.)

The scope of social anthropology is defined. Its study in Alaska is retarded by lag in the development there of sociology and psychology. Social science studies made recently (mostly by economists) or underway are listed. Alaskan concept of the term "native" is another obstacle to sound development of social anthropology. Confusion is noted regarding place of Eskimos and Indians, but the new Alaskan culture is indigenous, not a transplant, author stresses: the various ethnic elements present contribute to it. Some examples of research problems in social anthropology are presented with comments. Copy seen: DGS.

LANTIS, MARGARET, 1906—. see also Sanders, I. T. Societies around the world. 1956. No. 47782.

46251. LAPPARENT, ALBERT AUGUSTE de. Action de la glace. (In his: Traité de géologie, 2d ed. Paris, F. Savy, 1885. p. 256-317, illus., diagrs., text map.) 50 refs. Text in French. Title tr.: Ice action.

Ice characteristics and the role of ice in morphology are discussed in detail in eight sections; the first five deal with glacier formation; ice movement; factors determining length and thickness of glaciers and glacier surface phenomena; mechanical effects of glacier ice and resulting topographic features; glacier regimes, effects of glacier convergence, variations during historic times. Section 6 discusses characteristics of ice in polar regions, the Greenland icecap, valley glaciers, icebergs, shelf ice, old polar ice. Sections 7 and 8 deal with temporary ice types such as river and lake ice, naleds, sea ice; features associated with glaciers such as fiords, lakes, cirques.

Copy seen: DLC.

46252. LAPRAS, A. Attitudes thérapeutiques devant les gelures. (Presse médicale. Dec. 1955. année 63, no. 85, p. 1767–68.) 19 refs. Text in French. Title tr.: Therapeutic attitudes on frostbite.

Deals with occurrence of frostbite, especially during recent climbing expeditions; pathology and prevention; frostbite and trench foot; first aid; therapy (sympathetic blockade, anticoagulants, etc.); experimental hypothermia.

Copy seen: DNLM.

46253. LAQUEILLE, MAXIME. Le refroidissement artificiel des terrains. Paris, 1948. 111 p., illus., diagrs., graphs, tables. (France. Ministère de l'Air. Publications scientifiques et techniques no. 217.) Ref. Text in French. *Title tr.*: Artificial freezing of ground.

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"Laboratory investigations of soil freezing and of various methods of freezing ground for engineering purposes are described in detail, and the results are tabulated, graphed and evaluated. The experiments were made on sands under various conditions of stratification, moisture, and salinity. Special attention is given to the properties of the frozen mixtures, the effects of grain size, and an analysis of the freezing process."—SIPRE.

\*\*Copy seen: DLC.\*\*

LARIONOV, V. S., see Vysotskii, K. P., and others. Transport torfa. 1955. No. 48828.

46254. LARSEN, HELGE EYVIN, 1905—. Æresformand i Det grønlandske selskab. (Grønland, Mar. 1956, nr. 3, p. 120, port.) Text in Danish. *Title tr.:* Honorary President of Det grønlandske selskab (The Greenland Association).

Tribute to Ejnar Mikkelsen, President of Det grønlandske selskab 1935–1956 and elected Honorary President on his retirement this year *Copy seen:* DLC.

46255, LARSEN, L. Grønlandshvalen og dens skaebne. (Grønland 1953, hefte 7, p. 265-70, illus.) Text in Danish. *Title tr.:* The Greenland whale and its fate.

Contains general historical notes on whaling in arctic waters mainly by the Dutch, English and Scandinavians. The first Greenland whale (Balaena mysticetus) caught was by the Dutch at Spitsbergen in 1612. Gradually whaling was extended to the Greenland Sea and west coast of Greenland. Dutch whaling off Spitsbergen and Greenland reached a peak in 1701 when 18,000 persons were employed in the industry and over 200,000 barrels of oil produced. In 1911 the last expedition (a failure) was sent out for Greenland whales, now protected by international law.

Copy seen: DLC.

46256. LARSEN, L. Hvalfangsten ved Grønland. (Grønland 1953, hefte 11, p. 437-40, illus.) Text in Danish. Title tr.: Whaling off Greenland.

Surveys whaling (baleen whales) since

its start in 1925 by the Royal Greenland Trading Company. The SS. Sonja (gross tonnage 127) was used and from 1951 the Sonja Kaligtok (gross tonnage 250). A few catch data are given: 50 animals the first year decreasing to five in 1939. Operations were suspended during the war; 1946, 61 whales were caught; in the following years: 68, 32, 30 and 46. Fluctuations in the catch are considered to be due to changes in feeding conditions, temperature and to the constant mist some years, rather than to excessive hunting.

Copy seen: DLC.

46257. LARSEN, OLUF. Sommertandlæge i Grønland. (Grønland, Feb. 1956, nr. 2, p. 57-65, illus.) Text in Danish. *Title tr.:* Summer dentist in Greenland.

A Danish dentist recounts his experiences during three summers in Greenland: at Frederikshåb and Sukkertoppen visited in 1953, Angmagssalik (65°36' N. 37°38' W., East Greenland) and Scoresbysund in 1954, and Thule in 1955. Caries is increasing with consumption of imported foodstuffs. Of 125 school children at Frederikshåb, three had healthy teeth. (At the settlement Neria in the Frederikshåb district, on the other hand, only a single child of ten had one cavity.) In Sukkertoppen conditions were worse and writer's work consisted mostly in providing artificial teeth. At Angmagssalik conditions were excellent, especially among adults. The Scoresbysund visit was short. At Thule all the inhabitants were treated, one per household requiring full set of artificial teeth. Dental care is free of charge in Greenland. More dentists are needed, also more preventive care: improvement of diet, propaganda and dental care in the schools.

Copy seen: DLC.

LARSON, CARL LEONARD, 1909-, see Eklund, C. M., and C. L. Larson. Outbreak of type 3 poliomyelitis . . . 1956. No. 44752.

46258. LARSON, CEDRIC. Scrimshaw, art of the whale hunters. (Think, Nov. 1955. v. 21, no. 11, p. 14–15, illus.)

Deals with carving from whales' teeth, whalebones, walrus' ivory, as carried on, largely, by New England whalers of the 19th century. Technique is explained and wide variety of objects (illus.) produced is noted. Museums with good collections are named.

A similar article: Scrimshaw, whaling

men's work in whale teeth was pub. in Norsk hvalfangsttidende, Feb. 1956. Årg. 45, no. 2, p. 61-65, illus. (Text in English and Norwegian.) Copy at DA and SPRI. Though based on Larson's, it draws attention to scrimshaw as carried on since Viking times, and still a small-scale industry in Norway.

Copy seen: DLC.

46259. LARSSON, KARL-ERIK. Bortom allfarvägen i Sarek. (Till fjälls 1956. Årg. 28, p. 46–53, illus.) Text in Swedish. *Title tr.*: Beyond the beaten track in Sarek.

Reports a two-week climbing tour by the author and four companions in summer 1955 in the Sarek mountains (67°27' N. 17°40' E.) of north Sweden; route is described in detail. **Copy seen:** SPRI.

LARSSON, S., see Andersson, B., and others. Central control of heat loss . . . goat. 1956. No. 43635.

46260. LARSSON, SV. G. Insektspredning ved menneskets hjælp. (Naturens verden, 1951. Årg. 35 hefte 3-5, p. 80-94, 4 illus., text map.) Text in Danish. *Title tr.:* Spreading of insects with human help.

Most faunal species on Greenland and Iceland have been imported by man. The ability of birds and flying insects to wander unassisted is contrasted with the dependence of less mobile forms upon carriers. Viking ships probably left Scandinavia too early in the season to carry many insects at a proper stage to survive the long journey and later reproduce; they were more readily carried northward from the Scottish isles. Some

species on Greenland (several named) can

be traced to particular European or

American sources. Beetles, lice, and

woodborers are among species mentioned.

Copy seen: DLC.

46261. LASHKEVICH, G. I. Meroprifatifa, povyshafishchie urozhal konopli na torffanykh pochvakh. (In: Akademifa navuk BSSR, Minsk. Instytut melifaratsyi vodnal i balotnal haspadarki. Trudy, 1953. t. 2, p. 145–57, tables.) Text in Russian. Title tr.: Measures for increasing the yield of hemps on peat soils.

Discusses the growth of two main types of hemp, which require different soils and cultivation. One type is used for its fibrous stems in cords, ropes, textiles, etc. The other is used for seed, also in production of oils for food or paints; and its residue, for building materials, paper and plastics. Deeply rooted hemp absorbs large amounts of moisture and acts therefore as a vigorous drier of the marshland. Better quality of fibers is obtained on peat soils with superphosphates, phosphoro-bacterine and copper-containing fertilizers. Soil for seed-type hemp requires another cultivation: sometimes a field garden is used after harvesting vegetables, extensive cultivation and fertilizing. Copy seen: DLC.

46262. LASHUK, L. P. Étnicheskaía istoriía Pechorskogo kraía. (Akademiía nauk SSSR. Institut étnografii. Kratkie soobshcheniía, 1956. no. 25, p. 82–91.) Text in Russian. Title tr.: Ethnic history of Pechorskiy Kray. Dissertation defended at the Institute of

Ethnography, Dec. 7, 1954.

Deals with the population of Pechorskiy Kray (Arkhangel'skaya Oblast') from the stone age to the 1920's, with emphasis on the period since the 15th century. Samoyeds are first mentioned in the 12th century; the aboriginal Pechera disappear by the 16th, probably due to intermariage (with Samoyeds, Russians, Zyryans, Ostyaks, Voguls). Geographic distribution of this population is described, also its dispersion outside Pechorskiy Kray. Its economy and culture are outlined; dialect peculiarities are noted.

Copy seen: DLC.

LASSEN, N. A., see Hensen, A. T., and others. Measurement of coronary blood flow . . . krypton 85. 1956. No. 45425.

LÁSZLÓ, KATALIN, see Hársing, L., and others. Hypothermia hatása . . . 1956. No. 45458.

46263. LAUGHARNE, GRACE. Canada looks ahead. London, New York, Royal Institute of International Affairs, 1956. ix, 158 p. maps, tables, 22 refs.

A survey of Canada's history, government, economic development, oil and gas reserves, mineral resources, transport and power, industries. Includes description of mineral resources and mining, hydroelectric power, and defence projects in the North.

Copy seen: DLC.

46264. LAUGHLIN, WILLIAM SCEVA, 1919- . Blood groups of the Anaqtuavik Eskimos, Alaska. (U. S. Air Force. Arctic Aeromedical Laboratory, Ladd Air Force Base, Alaska. Technical report 57-5. June 1957. 18 p. tables.) 17 refs.

Account of investigation of 43 persons from this village at Anaktuvuk Pass, northern Alaska, for the presence of antigens of the A, A<sub>1</sub>, B and O system, the MN system and of three antigens of the Rhesus system: Rh<sub>0</sub> (D), Rh<sup>1</sup> (C) and Rh<sup>11</sup> (E). Data on relationship and birthplace are considered. The presence of blood group B and a high proportion of A was established. This stresses the relationship of the Anaqtuavik group with other western Eskimos.

Copy seen: DNLM.

46265. LAUGHLIN, WILLIAM SCEVA, 1919—, and G. H. MARSH. Trends in Aleutian stone artifacts. (Alaska. University. Anthropological papers, Dec. 1956. v. 5, no. 1, p. 5–21, illus., tables.) 4 refs.

Analysis of material excavated on Umnak Island from the Chaluka midden. Its depth, antiquity, and wealth of material enable a study of trends useful in tracing development in the material culture of Aleutian Eskimos. lamellar flakes having been previously reported (No. 35809), the chipped stone artifacts: projected points, knives, adze blades, and related bone artifacts are analyzed. Differences in technique, style, frequency of occurrence are tabulated and discussed. The progressive increase and diminution of certain implements in contiguous layers is examined for evaluating the duration, specific amounts and historical continuity of certain types, and the relationship between different kinds of artifacts, also as aid in comparing sites with similar finds. Copy seen: DLC.

46266. LAUR, C.-M. Réactions hématologiques post-adrénaliniques chez le rat en poïkilothermie expérimentale. (Revue de pathologie générale et comparée, Oct. 1955. Année 55, no. 671, p. 1147–51, tables.) Text in French. *Title tr.:* Hematologie post-adrenaline reactions of rats in experimental poikilothermia.

Account of experiments made at the beginning and at the end of winter. Cold exposure alone evoked a normal hematological reaction; administration of adrenaline caused an inversion of the blood picture with the number of erythrocytes falling to 500,000-1,000,000 per mm<sup>3</sup>.

\*\*Copy seen: DNLM.\*\*

46267. LAURSEN, DAN. Grønlaendere i forskningens tjeneste II: Hans Hendrik

fra Fiskenaesset. (Grønland, Apr. 1956, nr. 4, p. 144-49, port.) Text in Danish. In sequence with No. 40947. *Title tr.:* Greenlanders in the service of exploration II: Hans Hendrik from Fiskenaesset.

Contains biographical notes on Hans Hendrik, born about 1834, who took part as hunter and sledge-driver in several expeditions to North Greenland and Ellesmere Island: the second Grinnell expedition in 1853–55 under E. K. Kane; expeditions of Isaac I. Hayes in 1860–61, C. F. Hall in 1869–73, and the British arctic expedition under Nares in 1874–76. His contribution to the survival and success of the expeditions is stressed.

Copy seen: DLC.

46268. LAURSEN, DAN. Klimasvingninger i Grønland efter istiden. (Grønland 1953, hefte 7, p. 241–46, illus., table.) Text in Danish. *Title tr.:* Climatic fluctuations in Greenland after the ice age.

Describes results of investigations of sand and clay deposits along the Greenland coasts and their faunal remains (snail and mussel shells). Table shows the main climatic periods with mean temperatures for July and principal shells found in the corresponding strata.

Copy seen: DLC.

**46269.** LAVENDA, NATHAN, 1918—, and R. G. BARTLETT, Jr. Distribution of circulating eosinophils of the rat in cold stress. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 116.)

Account of eosinophil and differential determinations made prior to and after a cold-exposure. Four hrs. after exposure a large rise of eosinophils in the tail vein and a moderate one in the heart blood were observed. Conditions returned to normal 24 hrs. after exposure.

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46270. LAVENDA, NATHAN, 1918—, and others. Leucocyte changes in rodents exposed to cold with and without restraint. (American journal of physiology, Mar. 1956. v. 184, no. 3, p. 624–26, illus.) 8 refs. Other authors: R. G. Bartlett, Jr., and V. E. Kennedy.

Account of observations on mice and rats made hypothermic to  $16^{\circ}\pm2^{\circ}$  C. Cold alone produced leucopenia in the mice but had no effect on the leucocyte picture of the rat. Cold was the more severe stress in the mouse, restraint in the rat.

\*\*Copy seen: DLC.\*\*

LAVRENKO, EVGENIĬ MIKHAĬLO-VICH, 1900- , see Akademila nauk SSSR. Botanicheskil institut. Rastitel'nyl pokrov SSSR . . . Botanicheskaſla karta SSSR . . . 1956. No. 43520.

46271. LAVROV, A. V., and Z. N. AREF'EV. Metodicheskoe soveshchanie pochvovedov Urala. (Pochvovedenie, Oct. 1956, no. 10, p. 111-14) Text in Russian. *Title tr.:* Methodic conference of soil specialists of the Ural.

Summarizes proceedings of the Conference held on Apr. 24-28, 1956 (in Sverdlovsk?). Successful experiments in amelioration of peat soil in the northern Trans-Ural by adding microelements (of copper?) was reported (p. 112), by M. M. Storozheva, Copy seen: DLC.

46272. LAVROV, N. Neotlozhnye nuzhdy ondatrovodstva. (Okhota i okhotnich'e khozñistvo, Mar. 1956, no. 3, p. 28-31, illus.) Text in Russian. *Title tr.:* Immediate needs in muskrat raising. Shortcomings of muskrat raising in

Shortcomings of muskrat raising in Karelia and Arkhangel'sk Province among other areas, as compared with successes achieved in the United States and Canada. Copy seen: DLC.

46273. LAVROVA, MARIA A. Chetvertichnye otlozheniâ v Zaimandrovskom rafone. (In: Fersman, A. E. Za polfarnym krugom, 1932. p. 62-64, illus.) Text in Russian. Title tr: Quaternary deposits in the Zaimandra (i. e. other side of Lake Imandra) region.

The Quaternary team of the Volch'ya Tundra party of the Academy of Sciences' Kola Expedition in 1932 collected material on the last glaciation in Volch'ya Tundra, north of Moncha Tundra. In the period of maximum glaciation, both tundras were buried under glaciers 1 km. thick, moving from west to east; periods of nunataks and local glaciers followed. Diatomites, sands, gravel and pebbles, occurring in deposits formed in those times, have industrial value. An "island" of permafrost was encountered amidst marshes.

Copy seen: SPRI; DLC (microfilm).

46274. LAVROVA, MARIA A. Issledovania chetvertichnykh otlozhenii v fûzhnol chasti Kol'skogo poluostrova. (In: Khibinskie apatity, 1933, t. 6, p. 243-46.) Text in Russian. Title tr.: Study of the Quaternary formations in the southern part of Kola Peninsula.

Structural geology and periodic changes in the deposits are studied with a view to solving scientific and industrial problems raised at the International Conference on the study of Quaternary deposits. Marine interglacial layers were covered by continental glacial deposits (moraine) and glacial lake sediments, then marine These data confirm the sediments. theory of temporary separation of the White and polar seas and formation of a closed lake. Another problem concerns the Quaternary deposits of the Khibiny and study of their genesis for practical purposes: characteristics of building materials, location of ground water and other data for construction purposes. Copy seen: DGS.

LEAR, E., see Andrews, C. W., and E. Lear. The biology of arctic char... 1956. No. 43655.

LEAR, ROBERT D., see Mukherjee, N. R., and R. D. Lear. Concentration of scheelite by flotation. 1956. No. 46886.

46275. LEBEDEV, A. P. Nekotorye voprosy geologii sibirskikh trappov v svete novykh dannykh. (Akademifa nauk SSSR. Izvestifa, serifa geologicheskafa, July-Aug. 1951. no. 4, p. 48-56.) 13 refs. Text in Russian. *Title tr.:* Some geological problems on Siberian trap rocks in light of new data.

Conditions for formation of deposits in the tuffaceous layer of the Tungusskian strata, Yenisey-Lena platform, are described. These deposits are considered as an accumulation of typical pyroclastic materials, subjected to considerable local transport. The problem of separation of the trap rocks of the intrusion phase is discussed on the basis of the study of the tuffaceous layer in the basins of rivers: Taymyr, Chuna, Nizhnyaya Tunguska, Angara and others; a definite sequence in intrusion is established. Location of any type of trap rock intrusion in a definite zone of the strata indicates its morphological character. The latter defines the petrographic type of the intrusion, distribution of separate mineralogical phases, and degree and direction of their differentiation.

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46276. LEBEDEV, D. V., and S. ÎU. LIPSHITS. BibliograficheskiI spravochnik po "Botanicheskomu zhurnalu", toma I-XL, 1916-1955 gg. (BotanicheskiI zhurnal, Dec. 1956. v. 41, no. 12,

p. 1735-1880.) Text in Russian. Title tr.: Bibliographical index to the Botanicheskit zhurnal, v. 1-40, 1916-1955.

In four sections, the first and most important, listing materials published in the journal, in all some 3,000 items. Auxiliary indexes of works reviewed, or discussed at meetings, of personalia, and of new genera and species of plants described in the journal, complete this important reference work. It includes many papers dealing with arctic regions of the U.S.S.R. Copy seen: DLC.

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46277. LEBEDEV, D. V. Vvedenie v botanicheskufu literaturu SSSR; posobie dlîa geobotanikov. Moskva-Leningrad, Izd-vo Akad. nauk SSSR, 1956. 382 p. (Akademifa nauk SSSR. Botanicheskil Text in Russian. institut.) Title tr.: Introduction to botanical literature of the U.S.S.R.; a manual for geobotanists.

Basic work with emphasis on phytogeography, covering four principal groups of material: bibliographies; synoptic works and manuals; classical works of Russian botanists; and important monographs and separate papers published in the last 20-25 years. Besides geobotanical and floristic literature, the bibliography includes the important works in such allied sciences as physical geography, geology, geomorphology, climatology, meteorology, soil science, agriculture, forestry, as well as general scientific reference works. Many of the publications listed deal with the Soviet arctic regions; important in this respect are sections on the North of European U. S. S. R. (p. 62-65); Siberia and the Far East (p. 94-105); tundra (p. 124-28); algae (p. 183-87); lichens, (p. 194-96); mosses (p. 197-201); etc.; many scattered references appear in other sections as well. Author index is appended (p. 356-78); foreword (p. 3-6) is signed by the editor, E. M. Lavrenko. Copy seen: DLC.

46278. LEBEDEV, V. G. Rechnol led kak rel'efoobrazu@shchil faktor. sofuznoe geograficheskoe obshchestvo. Izvestifa, Jan.-Feb. 1956. t. 88, no. 1, p. 85-87.) 2 refs. Text in Russian. Title tr.: River ice as relief-forming factor.

In spring 1950 and 1951, the author observed the run-off of winter ice on the Angara River; pressure of the great mass of ice raised alluvial layers and made walls 7-8 m. high along the bank, affecting the relief of the river valley. Observations by S. G. Boch in Northern Ural and by other scientists are considered.

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46279. LEBEDEVA, M. O prodolzhitel'nosti zhizni ptits. (Okhota i okhotnich'e khozíalstvo, Sept. 1956, no. 9, p. 26-28, Text in Russian. illus., table.) tr.: Longevity of birds.

Data on longevity compiled from recoveries of banded birds are discussed and 25 of the most interesting cases tabulated, with Russian and Latin names, date and place of banding and recovery, and their distance apart. An arctic tern banded in Kandalaksha Preserve in July 1955 was recovered in Australia in May 1956, a distance of 24,000 km. Since 1924, nearly 800 thousand birds have been banded in U. S. S. R. and over 10,000 recovered.

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46280. LEBEDEVA, M. Ptitsy s kol'tsami. (Okhota i okhotnich'e khozfalstvo. Feb. 1956, no. 2, p. 62.) Text in Russian. Title tr.: Banded birds.

Notes several recoveries in U. S. S. R. of birds banded in Finland and in the United States; Branta bernicla, which winters in North America, breeds in Chukotka. Copy seen: DLC.

LEBEDINSKII, A. I., see Krasovskii, Izluchenie neba i polfarnykh sifanil . . . 1956. No. 46116.

46281. LE BLANC, J. S. Evidence and meaning of acclimatization to cold in (Journal of applied physiology, Nov. 1956. v. 9, no. 3, p. 395-98, illus., table.) 11 refs.

Account of standard cold tests in soldiers exposed for four months to winter conditions at Fort Churchill, Manitoba, and frequently experiencing thermal discomfort. At the end of the winter, heat production caused by the standard cold exposure was smaller than in the fall, which is interpreted as evidence of acclimatization to cold.

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46282. LE BLANC, J. S. Impairment of manual dexterity in the cold. (Journal of applied physiology, July 1956. v. 9, no. 1, p. 62-64, illus., tables.) 5 refs.

Account of experiments which support the hypothesis that increased viscosity of synovial fluid is a factor in lowering finger dexterity in the cold. It is, however, not the only factor, since cooling of the arm whilst keeping the hands warm, also reduced finger dexterity.

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46283. LE BLANC, J. S. Rearing of lemmings at Fort Churchill, Manitoba. (Journal of mammalogy, Aug. 1956. v. 37, no. 3, p. 447-48, table.)

Contains observations on a lemming colony (Dicrostonyx groenlandicus richardsoni), started in 1950 by Defence Research Northern Laboratories. The average life span was approx. 661 days. The optimal rearing conditions are: air temperature (most important factor) of 35-45° F. in winter, 45-65° in summer; light as prevailing in the vicinity of lemming habitats; for feeding, pellets and vegetables (carrots and cabbage). Diabetes, observed in 1950-52, was eliminated when the rolled oats eaten in large quantities in the winter, were replaced with pellets. Fluctuations in population density are tabulated.

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46284. LE BLANC, J. S. Study on blood ascorbic acid levels of personnel at Fort Churchill, Manitoba. Fort Churchill, Manitoba, Dec. 1955. 15 p. illustables. Process print. (Canada. Defence Research Northern Laboratory. Report no. 3/55.) 19 refs.

Contains a study of over 330 individuals, which revealed that the winter intake of ascorbic acid should be increased by about 30 mgs. in order to bring the blood levels of the cold season (0.7 mg. %); also, the blood level was found to be higher in females, in younger and in lean persons. A high incidence of scurvy is reported among native infants.

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46285. LE BRASSEUR, R. J. Zooplankton distribution in the northeast Pacific Ocean. (Canada. Fisheries Research Board. Pacific Coast Stations. Progress reports, no. 107. Nov. 1956. p. 3-5, illus., map.)

Contains a report on the material collected by Canadian and American agencies during the summer of 1955 (Project Norpae). The zooplankton was found abundant along the Alaskan coasts, but patchy in the open sea. Little difference in vertical distribution was observed between day and night catches, the samples were therefore combined for evaluation.

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46286. LEE, ARTHUR. British fishery research in the Barents Sea. (Polar record, May 1956. v. 8, no. 53, p. 109–117, maps.) 8 refs.

Account of investigations carried out during 1949-55 by the Arctic Team of the Fishery Laboratory, Lowestoft. Bjørnøya-Spitsbergen arc was surveyed almost exclusively, with primary attention to cod (Gadus callarias), with haddock (Gadus aeglefinus) and plaice (Pleuronectes platessa) occupying secondary place. The distribution as determined by oceanographic and environmental factors, migrations, plankton, also the fish stock as affected by trawling and climatic fluctuations, the benthos, etc. were studied and their bearing on fisheries evaluated. Copy seen: DLC.

**46287. LEE, DAVID C.** Supplying our arctic forces. (Army information digest, Jan. 1956. v. 11, no. 1, p. 26-29, illus.)

A popular account is given of the activities of the 7,278th GU Transportation Terminal Command of the U. S. Transportation Corps. This command controls unloading operations and port facilities at major Air Force installations in Greenland. Operations at Thule are simplified by the use of a DeLong pier; but at Sondrestrom Air Base, unloading must be accomplished by amphibious barges. Resupply operations from June-Oct. have to contend with ice, strong tides and currents, and poor beach conditions.

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LEE, G. M., see U. S. Air Force. Air Weather Service. Studies...forecasting; Coral Harbor...1944. No. 48524.

46288. LEE, OWEN S. Local environmental factors affecting ice formation in Terrington Basin, Labrador. Washington, D. C., Dec. 1955. 29 p. 4 text charts, 13 graphs, 3 tables. (U. S. Hydrographic Office. Technical report, TR-24.) 3 refs.

Oceanographically, Terrington Basin (53°21' N. 60°23' W., at west end of Goose Bay) is a shallow basin in which advection plays an important part. After the Bay is frozen over, the thermohaline structure in the Basin becomes stable, with fresh water in the uppermost layers. Thus ice formation is similar to that in fresh-water lakes. Since standard methods of predicting ice formation and growth from the thermohaline structure cannot be used, ice forecasting becomes a one-parameter problem, with use of degree days of frost as the variable.

On the basis of data obtained from 32 oceanographic stations, Nov. 1–Dec. 9, 1953, mean date of ice formation was found to be Nov. 5, length of ice-growth season 149 days, and mean max. thickness of ice 31.8 in.

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46289. LEE, OWEN S. Sea ice investigations in support of NEAC operations. Report of data collected and analysis of salinity data. Washington, D. C., U. S. Hydrographic Office, Oct. 1956. 17 p. diagrs., graphs, 2 tables.

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Description and preliminary results of a study of physical properties of sea ice made by the Hydrographic Office at Hopedale, Labrador (55°27′ N. 60°13′ W.), Jan.-May 1956, as part of a sea ice trafficability study. Ice salinity and temperature data were collected in Feb.-Apr.; during Apr.-May, disintegrating sea ice was photographed with movie camera. Data show that horizontal salinity variation is extremely complex. Vertically, a minimum salinity layer occurs in the middle layers of the ice and maximum variability at surface and bottom. The ice is permeable at temperatures above -8° C., and on clear days radiation is sufficient to raise temperatures above the figure. Ice is generally strongest at dawn, barring sudden air temperature changes. Copy seen: DN-HO.

LEE, SIL H., see Fedor, E. J., and others. Effect of hypothermia . . . induced bacteremia. 1956. No. 44863.

LEE, SIL H., see Fisher, B., and others. Some physiologic effects . . . hypothermia . . . liver. 1956. No. 44906.

**46290. LEECHMAN, JOHN DOUG- LAS, 1890** . Fish out of water. (Canadian geographical journal, Oct. 1956. v. 53, no. 4, p. 154–58, 7 illus.)

Popular account of Indian and white fishing methods in Northwest Territories and Yukon during the fur trading period, and to some extent at present: types of nets, traps, and weirs, activity during the autumn fishing season, cleaning, smoking, and storing of fish, etc.

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46291. LEER, R. HARRISON, and D. L. SPARLING. Eye disease among native school children. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 207–209.)

A survey among native students aged 13-32 years showed 54 percent with subnormal vision for distance and 6.5 percent with corneal scarring. Myopia and myopic astigmatism affected 35 percent against 5 percent among the white population of the United States. Corneal scarring, its etiology and therapy are discussed in detail. *Copy seen:* DGS.

46292. Lefebre, Charlene Craft. A contribution to the archeology of the upper Kuskokwim. (American antiquity, Jan. 1956. v. 21, no. 3, p. 268-74, illus., map.) 5 refs.

Report on a fish camp site by Lake Telida (approx. 63°30' N. 152°30' W.) near the McKinley Fork of the Kuskokwim system, an area first explored by J. S. Herron's party in 1899 (cf. No. 18244). The site was excavated by a party of three in 1949. The material recovered is described and figured: adzes, scrapers, ulus (knives), projectile points, microlithic obsidian tools, bone awls, pottery fragments, etc., a complex characteristic of recent, prehistoric sites in Athapaskan territory excavated on the Yukon River. The Kuskokwim finds were made in a 6-12 in. deep hearth layer under a layer of sod 6-11 in. thick; they lay on sterile or sandy clay partly in permafrost ground which started at a depth of 17-20 in. Need for planned field work on the Kuskokwim similar to that on the Yukon (cf. No. 3535, 14115) is stressed. Copy seen: DLC.

46293. LEFFINGWELL, ERNEST de KOVEN, 1876— . A reconnaissance of the arctic slope of Alaska. (Washington Academy of Sciences. Journal, June 4, 1913. v. 3, no. 11, p. 343—44.)

Contains a summary of geological study of the region between Canning River on the west and Okpelak River on the east. Two provinces are recognized, the arctic mountains and the arctic slope, the latter divided into the Anaktuvuk plateau of Mesozoic and Tertiary rocks, and featureless coastal plain of Pleistocene rocks. The area of Anaktuvuk plateau was uplifted and base-leveled in late Pliocene or early Pleistocene times. The coastal plain was uplifted in the Pleistocene time.

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46294. LE FLOCH, J. Quelques propriétés de la zone de transition entre eau Arctique et eau Atlantique en Mer de Norvège. Bergen, Sept. 1953. 45 p. 29 tables. (Bergen, Norway. Universitetet. Årbok; Naturvitenskapelig rekke, 1953. nr. 3.) 2 refs. Text in French.

Summary in English. **Title tr.:** Some properties of the transition zone between Arctic and Atlantic water in the Nor-

wegian Sea.

A study of daily oceanographic data obtained at Ocean Weather Ship "M" in the Greenland Sea (66° N. 2° E.) since 1948. Distribution of 'stations' occupied in the 5° square during each month is tabulated. Hydrological conditions in the vicinity are described, from observations Oct. 1948-Oct. 1950. Mean isotherms and isohalines are analyzed for this period showing variations with latitude, longitude, depth, season and year. Anomalies in the temperature/salinity relation are dealt with; also the distribution of temperature along the 35 percent isohaline and seasonal variations in its position relative to the 3° isotherm. The soundings of June 1951 and the temperature-salinity anomalies relative to surface salinity variations in June-July 1951 are analyzed. Copy seen: DWB.

LEGEZA, M. I., see Lindberg, G. U., and M. I. Legeza. O dvukh formakh . . . akuly Squalus acanthias L. 1956. No. 46361.

46295. LEGGET, ROBERT FERGU-SON. Permafrost research in northern Canada. (Nature, London, Oct. 6, 1956. v. 178, no. 4536, p. 716-17.) 2 refs.

Reports opening of the Northern Research Station for Permafrost Research, established at Norman Wells by the National Research Council's Division of Building Research. It comprises two prefabricated wooden buildings, a residence measuring 24 x 48 ft. and a fully-equipped soil mechanics laboratory, 24 x 72 ft. Some general aspects of the permafrost problem are outlined.

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46296. LEGGET, ROBERT FERGU-SON, and R. J. E. BROWN. Rapid disintegration of alluvial-fan material near Aklavik, Northwest Territories. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1715.)

Abstract of paper submitted for Society meeting in Minneapolis, Oct. 31–Nov. 2, 1956. Test drilling in permafrost on western edge of Mackenzie Delta disclosed some 40 ft. of organic silt, no sand or gravel. Intense frost action causes rapid mechanical weathering of material from adjacent mountains. Process is aided by turbulent stream action and annual growth of grasses on surface of

stream meanders. Decay of grasses plus annual layer of stream bed material results in organic silt rather than the usual muskeg of the North.

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46297. LEGGET, ROBERT FERGU-SON. Visit of the National Research Council to northwestern Canada and the scientific work of the Council in the area. (Arctic circular, 1956. v. 9, no. 2, p.

Following the 1956 summer meeting of the Council, about 30 members traveled by air to Beaverlodge; Yellowknife, where unusual water supply system was seen; Norman Wells, where exposure site operated by Div. of Building Research was inspected and new buildings of the permafrost research station were opened; Tuktoyaktuk; old and new sites of Aklavik; Fort Simpson with its Experimental Farm; and Whitehorse, where power sites were inspected.

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LEGGET, ROBERT FERGUSON, see Pihlainen, J. A., and others. Pingo in the Mackenzie delta . . . 1956. No. 47352.

LEĬKINA, E. S., see Mozgovoĭ, A. A., and others. Rabota . . . ékspeditsii 1953 . . . 1956. No. 46879.

**46298.** LEINBACH, HAROLD. A photometric analysis of pulsating aurora. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub.* 1956, p. 116.)

Abstract of paper describing the analysis of fast speed photometric traces of pulsating aurora. Traces of the forbidden oxygen line at 5577 Å and the permitted negative band of the singly ionized nitrogen molecule at 3914 Å indicated a difference in excitation of the two radiations from the ordinary and flaming types of pulsating aurora.

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LEINBACH, HAROLD, see also Owren, L., and others. Arctic radio wave propagation . . . 1956. No. 47217.

46299. LEITCH, ADELAIDE. Handicrafts under the midday moon. (Canadian geographical journal, Mar. 1956. v. 52, no. 3, p. 114–17, 6 illus.)

Popular account of the work of the Yellowknife Branch of the Canadian Handicrafts Guild, started in 1946, selfgoverning and self-operating. It holds classes and encourages home crafts among the townspeople of Yellowknife, takes an interest in the Eskimos and Indians of the Western Arctic, helps to sell their work and encourages development of their skills and crafts.

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46300. LEITCH, ADELAIDE. Labrador summer. (Canadian nature, May-June 1956. v. 18, no. 3, p. 94-97, 4 illus.)

Brief popular account of the wild flowers and berries, birds, mammals, and fish of the coastal areas of Labrador.

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46301. LEITHÄUSER, JOACHIM G. Ufer hinter dem Horizont; die grossen Entdeeker der Erde von Kolumbus bis zur Weltraumfahrt. Berlin, Safari-Verlag, 1953. 452 p. illus., plates, text maps. Text in German. Also pub. in English as: Worlds beyond the horizon, translated by Hugh Merrick. New York, Knopf, 1955. xvi, 412, xvii p. Approx. 125 refs. Title tr.: Worlds beyond the horizon; the great discoverers of the earth from Columbus to space travel.

A history of discovery and explorers, including the far North and South: brief consideration of the Cabots, Cook, Cartier, Hudson, Radisson and Groseilliers, Bering, and Mackenzie; in more detail, the attack on the North Pole is recounted from the earliest times to Peary in 1909, including the Franklin Search, exploration of the Northwest and Northeast Passages, etc. Copy seen: DLC.

46302. LEĬVIKOV, MOISEĬ L'VO-VICH. Meteorologiâ, gidrologiâ i gidrometriâ. Izd. vtoroe, perer. i dop. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1955. 511 p. illus., maps, tables, 22 refs. Text in Russian. Title tr.: Meteorology, hydrology and hydrometry. Second edition, revised and enlarged. Admitted by the Ministry of Agriculture as a textbook for technical colleges on construction of rural hydroelectric plants and hydro-melioration.

Basic information on meteorology and hydrology and geographic distribution of their phenomena are presented generally, also in relation to winter and permafrost conditions. Methods of temperature measurements are outlined for air, snow, ice, soil and depth of freezing with illus. (p. 30-31). Snow cover characteristics for northern European and Siberian areas are summarized in the text (p. 63-67) and geographic distribution of its duration indicated by isothermic lines on map (fig. 28) as is surface evaporation (fig.

40). Consideration of river increment and run-off includes arctic and subarctic areas, cf. average and seasonal distribution maps, fig. 57-58, 68-71. In treatment of river morphology, meanders, sediments, etc., data on the great northern streams are assembled among others, cf. table 31, map 86. Lakes, including temperature and ice regimes, and marshes are similarly, though more briefly, dealt Part 4 (p. 293-501) is a detailed exposition with extensive illus. of hydrometric methods and instruments and their applications. Copy seen: DLC.

46303. LEĬZEROV, I. Severnym morskim putem. (Smena, Jan. 1956. god 33, no. 1, illus. (part color.), 4 plates between p. 12–13, map.) Text in Russian. *Title tr.:* On the Northern Sea Route.

Eight students of the Moscow Art Institute, with the author as instructor, made a summer (1955?) trip from Arkhangel'sk to Vladivostok on the dieselvessel Lena. The students' sketches (9 colored) are reproduced along with author's impressions of the trip: illusshow Provideniya Bay and Chukchi fishers' kolkhoz, etc. Copy seen: DLC.

46304. LELIKOV, A. E. Nekotorye voprosy ėkonomiki transporta severovostoka SSSR. (Rechnol transport, Aug. 1956. god 15, no. 8, p. 4–6.) Text in Russian. *Title tr.:* Some problems in the economics of transport in northwestern U. S. S. R.

In the industrial development of the Lena basin polymetallic ore deposit (especially tin) area, certain problems are encountered in shipping out ores and lumber and bringing in construction materials, food and fuel. Two main water routes are analyzed: one from the railroad town of Osetrovo down the Lena to the port of Tiksi, across the Laptev Sea and up the Yana to Verkhoyansk. The other route is from Murmansk via the Northern Sea Route to Nizhneyansk and up the Yana. The short summer shipping season and appreciably different depths along the waterway (entailing repeated unloading and reloading of cargos) present major mechanical and economic difficulties, particularly for petroleum and lumber. The high cost of petroleum transportation is due mainly to frequent reloading (15 times) of the barrels and to consumers' retaining about 50 percent of the barrels. The use of tankers is restricted by different water depths and by limited port facilities. Improvements toward solution of these problems are discussed in detail.

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**46305.** LEMIEUX, LOUIS. Taxonomie des oies blanches. (Naturaliste canadien, Apr. 1956. v. 83, no. 4, p. 61-65, illus.) 15 refs. Text in French. *Title tr.:* Taxonomy of the white geese.

Discusses the systematics and synonymy of two races of the white goose Chen hyperborea, native to the Hudson and James Bay region viz: C. h. hyperborea, the small, and C. h. atlantica, the large white goose. Copy seen: DLC.

LENFANT, C., see Nahas, G. G., and others. Étude du "débit azygos" . . . clampage des veines caves . . . hypothermie . . . 1956. No. 46929.

46306. LENINGRAD. ARKTICHESKIĬ NAUCHNO-ISSLEDOVATEL'SKIĬ IN-STITUT. Instruktsiiâ dliâ proizvodstva nabliûdenii nad temperaturoi, solenost'û, prozrachnost'û i favetom morskoi vody. Sostavil K. A. Gomoûnov. Moskva, Izd-vo Glavsevmorputi, 1944. 88. p. illus. tables, diagr (Its: Posobiâ i rukovodstva, vyp. 4.) Ref. Text in Russian.

Title tr: Instructions for observation of temperature, salinity, transparency and color of sea water. Prepared by

K. A. Gomoûnov.

Contains brief description of the instruments and detailed procedure for obtaining consistent observations. The Zubov reversing thermometers are described with illus.; also bathometers of the International Hydrographic Laboratory, Nansen and Knudsen bottles for obtaining water samples from the deep layers; and the Secchi disc for transparency observations of surface water. The depth of submerged instruments are corrected (tables) for curvature of the cable.

Appended are sample recordings of deep-water observations from the Smol'ny' in Bering Sea, 1941, and preliminary analysis of the temperatures taken.

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46307. LENINGRAD. ARKTICHESKIĬ NAUCHNO-ISSLEDOVATEL'SKIĬ INSTITUT. Instruktŝiĥa po izmereniĥi glubiny morĥa i sboru obrazfsov grunta. Sostavil V. S. Bol'shakov, pod obshchet red. K. A. Gomoĥnova. Moskva, Izd-vo Glavsevmorputi, 1944. 36 p. illus., table. (Its: Posobiĥa i rukovodstva, vyp. 10.)

Text in Russian. *Title tr:* Instructions for measurement of sea depth and collection of bottom samples. Compiled by V. S. Bol'shakov, general editor K. A. Gomoûnov.

Instruments and methods used under conditions of drifting and stationary ice cover are described; among them: Dobronravov's suspended device for measuring angularity of submerged anchor wire, Glushkov's bottom-sampler, Perfil'ev's stratometer for sampling silted and muddy bottoms 5–100 m. depth, sampling devices designed by Apolov (for 5–50 m.) and by Gomoûnov for sandy, silty and gravel bottoms to 300 m. Precautionary measures are mentioned in bottom sampling from drifting and stationary ice cover. Appended is a sample-book for recording of observed data.

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46308. LENINGRAD. ARKTICHESKIĬ NAUCHNO-ISSLEDOVATEL'SKIĬ INSTITUT. Instrukſsiß po proizvodstvu khimicheskikh issledovaniI morskoI vody. Sostavili S. V. Bruevich i S. K. Demenchenok. Moskva, Izd-vo Glavsevmorputi, 1944. 84 p. illus., tables, graph, (Its: Posobiß i rukovodstva, vyp. 7.) 52 refs. Text in Russian. Title tr: Instructions for chemical analysis of sea water, S. V. Bruevich and S. K. Demenchenok compilers.

Various practical methods and equipment for collection, storage and analysis of sea-water samples at polar stations are described in detail. Micro-method of determination of salinity (chlorine) is adopted in preference to the More-Knudsen method. Practical reagents, equipment and formulas are outlined for different analyses. Determination of dissolved oxygen content, carbon dioxide, alkalinity and pH (hydrogen ion concentration) are described in separate chapters.

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46309. LENINGRAD. ARKTICHESKIĬ NAUCHNO-ISSLEDOVATEL'SKIĬ INSTITUT. Tablitŝy i nomogrammy, primenîaemye pri obrabotke aérologicheskikh nablûdeniï; sostavil N. I. Shimko. Moskva, Izd-vo Glavsevmorputi, 1944. 107 p. 26 tables, 11 graphs. (Its: Posobiîa i rukovodstva, vyp. 3.) Text in Russian. Title tr.: Tables and nomographs, adopted for analysis of aerological observations; compiled by N. I. Shimko.

Introductory text gives brief instructions for use of mathematical expressions in computation of correction factors for

observed aerological data: ascent velocity of balloon sondes, maximum altitude, collimation, timing of signals, air temperature and pressure, specific humidity and equi-potential temperature.

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LENINGRAD. ARKTICHESKIĬ NA-UCHNO-ISSLEDOVATEL'SKIT INSTI-TUT, see also Belov, M. I. Arkticheskoe moreplavanie . . . 1956. No. 43944.

46310. LENINGRAD. GLAVNAÍA GEO-FIZICHESKAÍA OBSERVATORIÍA. Rukovodstvo po podgotovke meteorologicheskikh ezhegodnikov. Leningrad, Gidrometeorologicheskoe izd-vo, 1955. 220 p. tables, diagr., graphs. Text in 220 p. tables, diagr., graphs. Text in Russian. *Title tr.:* Handbook for prep-

aration of the meteorological yearbooks.

Methods of review and preparation of observational data on atmospheric pressure, temperature, humidity, cloudiness, wind, precipitation, snow cover, snow and ice formation and other atmospheric phenomena are outlined for coordinated publication. The program, in four parts, comprises: composition of annual tables, technical control in preparation of tables, critical review (checking) of data, and assembly of tables into the yearbook. Snow cover data are treated (p. 122-38), frost, sleet, etc. (p. 148-58), ground temperature (p. 159-92).

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46311. LENINGRAD. INSTITUT NA-RODOV SEVERA. Nauchno-issledovateľ-skaia assotsiatsiia. lAzyki i pis'mennost' narodov Severa, chast' I. lAzyki i pis'mennost' samoedskikh i finno-ugorskikh narodov. Pod red. G. N. Prokof'e-va. Moskva. Gos. uchebno-pedagogicheskoe izd-vo, 1937. 233 p. illus., tables,

col. map. Refs. Text in Russian.

Title tr.: The languages and art of writing of the peoples of the North, pt. 1; the languages and art of writing of Samoyed and Finno-Ugric peoples. Ed.

by G. N. Prokof'ev.

Contains papers described in vol. 5 of this Bibliography under their authors' names as listed below. Appended is a map of the linguistic distribution in the Soviet North, in scale 1.:15 million, prepared and explained (p. 229-32) by Z. E. Cherníakov. Vital statistics in map and papers are according to the 1926 census.

PROKOF'EV, G. N. The Nenets (Yurak-Samoyed) language.

(Tawgi) dialect.

PROKOF'EV, G. N. The Enets (Yenisey-Samoyed) dialect. PROKOF'EV, G. N. The Sel'kup

PROKOF'EV, G. N. The Nganasan

(Ostyak-Samoved) language.

ENDIUKOVSKII, A. G. The Saami

(Lapp) language. CHERNETSOV, V. N. The Mansi

(Vogul) language.

SHTEINITS, V. K. The Khanty (Ostyak) language.

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46312. LENINGRAD. NAUCHNO-ISSLEDOVATEL'SKIÍ INSTITUT GE-OLOGII ARKTIKI. Metodicheskie issledovania po geokhimii terrigennykh osadochnykh porod. Moskva, Gos. nauchno-tekhnicheskoe izd-vo lit-ry po geologii i okhrane nedr, 1956. 196 p. graphs, diagrs., tables (5 fold.) 94 refs. (Nauchno-issledovateľ skiľ institut geologii Arktiki Ministerstva geologii i okhrany nedr SSSR. Trudy, t. 86.) Text in Russian. Title tr: Methodical investigations of the geochemistry of terrigenous sedimentary rocks.

Contains six papers based, at least in part, on investigations carried out in the Scientific Research Institute of Geology of the Arctic or its laboratories. systematic work was initiated in 1952 by geochemical investigations of Permian sediments in the Arctic. The problems presented in these papers are discussed in general terms without specific reference to their bearing on the Arctic: excepting in the second paper, tabular data on the chemical composition of aqueous and alcoholic extracts of the Quaternary deposits in some arctic regions are included (table 9, p. 38-39). The six papers, with titles translated into English,

Gedrolts, N. A. Obshchie ustanovki proizvedennykh metodicheskikh sledovanil po geokhimii terrigennykh osadochnykh porod (General principles of methodical investigations of the geochemistry of terrigenous sedimentary rocks). p. 3-8.

Pt. 1: Spiro, N. S., I. S. Gramberg, and TS. L. Vovk. Metodika sravnitel'nogo izuchenifa khimicheskogo sostava terrigennykh osadochnykh porod (Methods of comparative study of the chemical composition of terrigenous sedimentary rocks). p. 9-112.

Pt. 2: Spiro, N. S., and K. S. Bonch-Osmolovskafa. Sostav pogloshchennogo kompleksa glin dlâ sluchaev ravnovesifà s rastvorami tipa morskol vody; êksperimental'nye issledovanifà (Composition of colloidal clay complex under conditions of equilibrium with solutions of seawater type; experimental investigations). p. 113–33.

Bonch-Osmolovskafa, K. S., and N. S. Spiro. Metodika poluchenifa vytfažnek iz glinistykh osadochnykh porod dla izuchenifa sostavov legko rastvorimykh solei i pogloshchennogo kompleksa kationov; osnovnye svedenifa o primenfafushchikhsfa metodakh (Methods of preparation of samples from argillaceous sedimentary rocks for the study of the composition of solutions of easily soluble salts and of colloidal complexes of cations; basic information on the methods applied). p. 133-60.

Illûvieva, G. V. Metod opredelenifa okisnykh i karbonatnykh mineralov v osadochnykh gornykh porodakh (Methods of determining the oxide and carbonate mineral content of sedimentary

rocks). p. 160-86.

Koteneva, T. V. Skhema ratsional'nogo khimicheskogo analiza glinistykh porod (Scheme for rapid chemical analysis of clayey rocks). p. 186-96.

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46313. LENINGRAD. UNIVERSITET. FAKUL'TET NARODOV SEVERA. Istoriâ i ėkonomika Krainego Severa SSSR. Leningrad, 1950. 219 p. (Leningrad. Universitet. Uchenye zapiski, no. 115, Fakul'tet narodov Severa, vyp. 1.) Text in Russian. Title tr: History and economics of the far North.

Contains selected papers (10) delivered at a conference on problems of the far North at Leningrad University, Dec. 10-14, 1947. Editors' introduction (p. 3-6) stresses importance of that conference, lists the participating institutions and outlines the organization of the Department of the Peoples of the (Far) North: Fakul'tet narodov (Krainego) Severa, founded in 1948. In all, 72 papers were presented at the conference (listed p. 215-17), several of them published in the interval (listed p. 6). All those in this volume are described in this Bibliography under their authors' names: S. V. Bakhrushin, A. P. Okladnikov, N. N. Gurina, N. A. Beregovaía, A. I. Popov, I. S. Vdovin, A. I. Murzina, V. N. Uvachan, F. F. Krongauz and S. V. Slavin. Copy seen: DLC. 46314. LENINGRAD. VSESOĪUZNYĬ GEOLOGICHESKIĬ INSTITUT. Polevoi atlas ordovikskol i siluriiskol fauny Sibirskol platformy. Pod obschchel red. O. I. Nikiforovol. Moskva, Gos. nauchno-tekhn. izd-vo. lit-ry po geologii i okhrane nedr, 1955. 268 p. illus., tables, 21 refs. Text in Russian. Title tr: Field atlas of the Ordovician and Silurian fauna of the Siberian platform. General editor O. I. Nikiforova.

A vade mecum in two parts: a descriptive text (p. 3-140) arranged in taxonomic order with information on morphology, occurrence, stratigraphy, etc., of these fossils, is introduced with two general chapters by the editor on "How to search and collect this fauna" (p. 6-9) and "Stratigraphic outline of the Ordovician and Silurian of the Siberian platform" (p. 10-20). The various orders are treated by specialists, whose contributions are described in this Bibliography under their names, viz.:

NIKOLAEVA, T. V. Class Anthozoa-

coral polyps.

SOKOLOV, B. S. Subclass Tabulata. AVORSKII, V. I. Class Hydrozoa: hydromedusae.

ELTYSHEVA, R. S. Class Crinoidea: sea lilies.

MODZALEVSKAĨA, E. A., and V. P. NEKHOROSHEV. Class Bryozoa. ANDREEVA, O. N., and O. I. NIKIFOROVA. Class Brachiopoda.

VOSTOKOVA, V. A. Class Gastropoda.

BALASHOV, Z. G. Class Cephalo-

da.

IVANOVA, V. A. Class Crustacea. MAKSIMOVA, Z. A. Class Trilobita. OBUT, A. M. Class Graptolithina.

The second part of the atlas (p. 143–267) contains illustrations, mainly photographs, of the forms described in the first part, arranged on 52 plates. An introduction and brief notes supply additional explanations to the pictorial part of the atlas. Copy seen: DLC.

LENNIHAN, RICHARD, see Bernhard, W. F., and others. Effect of hypothermia . . . peripheral serum levels . . . 17-hydroxycorticoids . . . 1956. No. 44004.

LEONARD, FREDERICK C., see Sky and telescope. The Ahnighito . . . 1956. No. 48054.

46315. LEONARD, MORTIMER DEM-AREST, 1890- . A revision of the dipterous family Ragionidae (Leptidae) in the United States and Canada. Philadelphia, Academy of Natural Sciences, 1930. 181, iv p., 3 illus., 3 plates. (American Entomological Society.

Memoirs, no. 7.) 101 refs.

Contains characters of the family, keys, and a systematic list of about a hundred species, of which seven and three varieties are new; synonymy, descriptions, critical notes and list of specimens are given. Six species from the Hudson Bay region and one from Alaska, are included. Copy seen: DLC.

LEONARD, ROBERT S., see Andersen, S., and R. S. Leonard. Auroral zone absorption of radio waves . . . 1955. No. 43625.

LEONARD, ROBERT S., see also Little, C. G., and others. Radio wave propagation . . . 1956. No. 46397.

LEONG, GEORGE FRANCIS, 1925see Brauer, R. W., and others. Temperature . . . radiocolloid uptake . . . isolated . . . liver. 1956. No. 44123.

46316. LEONT'EV, FEDOR STEPA-NOVICH. V prostorakh Zapolíar'ía; zapiski naturalista. Moskva, Gos. izd-vo geogr. lit-ry, 1956. 182 p. illus., map. Title tr.: In the Text in Russian. polar expanse; a naturalist's notebook.

Botanist's account of his trip in the northeastern part of the Kolyma River basin. He traveled with an expedition from Moscow (in spring 1937) by train to Vladivostok, thence by steamer (the Ermak) via Bering Strait to Ambarchik, and by river boat up the Kolyma and Omolon to the Bol'shoy Oloy River (66°08' N. 160°28' E.). There he left the party and accompanied Yukaghirs and their reindeer herd; later he pushed on by dog-sledge along the northwestern slopes of Kolymskiv Khrebet (Gydan), and on Dec. 31 he reached the expedition base at the town of Ostrovnoye (approx. 68° N. 164° E.) on the Malyy Anyuy River. In the course of his narrative, writer describes his means of transportation, routes (map, p. 63) and events of the trip, also the settlements, such physical features as rivers, mountains, and landscape generally; large river naleds are noted (p. 162, 165). vegetation of the area traversed, from the coastal tundras to the forests on the upper reaches of the Omolon River and its tributaries, is treated in detail. Birds, includ-

71

ing swans, geese, ducks are noted, also encounters with bears, arctic fox, wild reindeer, wolverine and other animals. Hunting and trapping, living conditions of the Yukaghir reindeer breeders and seasonal migration of their herds are described. Botanical notes are scattered throughout the text, with emphasis on reindeer pastures and lichens. A list (Russian and Latin names) of 163 plants mentioned in the text is appended (p. 178 - 82). Copy seen: DLC.

LEOPOLD, ALDO STARKER, 1913see Marshall, R. Arctic wilderness . . . 1956. No. 46638.

LEPAGE, ERNEST, 1905-Botanical exploration along the Fort George River, Sakami Lake, and Eastmain River in 1956. (Arctic, 1956. v. 9, no. 4, p. 270.)

Reports trip with A. Dutilly on the eastern watershed of James Bay, July-Aug. 1956, completing their joint research in this part of northern Quebec. region is poor botanically and devastated by forest fires. Several species whose ranges were verified are noted, as are four species discovered; the forest types Copy seen: DLC. are identified.

46318. LEPAGE, ERNEST, 1905-Études sur quelques plantes américaines, IV. Carex hybrides. (Naturaliste canadien, May-July 1956. v. 83, no. 5-7, p. 105-56, illus.) 7 refs. Text in French. Title tr.: Studies on some American plants, IV. Carex hybrids.

Contains Latin and French descriptions of about 30 Carex hybrids, of which 15 They occur chiefly around are new. Hudson and James Bays, in Labrador and Northwest Territories, but two from Alaska and four from Greenland are also included. Earlier parts of these studies are listed as No. 30392, 30393, 35873.

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LEPOTIER, Contre-Amiral A. L'importance stratégique du Groenland. (Géographia, Oct. 1956. no. 61, p. 29-35, 2 illus., text map.) Ref. Text in French. Title tr.: The strategic importance of Greenland.

Describes Greenland's location with respect to other continents; the inland ice, based on investigations of Expéditions polaires françaises, 1948-1952; history of discovery; role in World War II; establishment of U.S. air bases on the west coast and German stations on the east; post-war U. S. agreements with Denmark regarding continuance of air bases Bluie West One and Eight on the west and southwest coast and establishment of Thule in the northwest; use of these bases by Scandinavian Airlines System transpolar flights since 1953. Copy seen: DGS.

LE ROY, PETR LUDOVIK, 1699-1774. Prikliuchenia chetyrekh rossilskikh matrosov k ostrovu Shpitsbergenu burefû prinesennykh. Moskva, Gos. izd-vo geogr. lit-ry, 1955. 38 p. Refs. Text in Russian. facs., map. Title tr.: Adventures of four Russian sailors brought to the Spitsbergen island by storm.

Reprint of No. 9936 of Arctic Bibliography; Vize's introduction and annotations are considerably abridged, and

illustrations omitted.

Copy seen: DLC.

LESNAIA, L., see Friedrich, A., and G. Buddruss. Schamanengeschichten . . . 1955. No. 44978.

46321. LESNIKOV, A. IUbilel khora Severnol pesni. (Sovetskafa muzyka, May 1956. god 20, no. 5, p. 148-49.) Text in Russian. Title tr.: Jubilee of the Northern Song Chorus.

Musical review of the chorus' 30th anniversary concert of Arkhangel'sk Copy seen: DLC. songs.

46322. LESQUEREUX, LEO, 1806-1889. Recent determinations of fossil plants from Kentucky, Louisiana, Oregon, California, Alaska, Greenland, etc., with descriptions of new species. (U. S. National Museum. Proceedings, Nov. 8, 1888. v. 11, p. 11–38, plates 4–16.)

Includes descriptions of Zamites alaskana and Chondrites filiciformis n. spp., and notes on eight other fossil plants from Cape Lisbourne, Alaska, collected by H. D. Woolfe, age probably Neocomian (p. 31-33); also (p. 33-35), an annotated list of 33 species from Greenland, collected by R. E. Peary, age Miocene. The paper was "compiled and prepared for publication by F. H. Knowlton." Copy seen: DLC.

46323. LESS, AL. Pisha pol'otu na "Pivnichnyĭ polius-6." (Ukraīna, Nov. 1956. no. 22 (181), p. 25 illus.) Text in Ukrainian. Title tr.: After the flight to "North Pole-6."

Reports impressions of an arctic flight on IL-12 SSSR N-526 piloted by Viktor Perov, to the drifting station "North Pole-6," headed by K. A. Sychev; with photo. of the camp. Copy seen: DLC.

46324. LESS, AL. "Severnyl polius-6." (Nauka i zhizn', Dec. 1956. god 23, no. 12, p. 20, illus.) Text in Russian. Title tr.: "North Pole-6."

Note on drifting station set up in April 1956 on an ice floe 13 x 9 km. in the region of "relative inaccessibility." Photographs show helicopter and various scientific activities in progress.

Copy seen: DLC.

46325. LESTER, ALEXANDER GEORGE. "Construction of the Mid-Canada Line." (Canadian Railway Club, Montreal. Official proceedings, Nov. 12, 1956. v. 49, no. 6, p. 1-13, port.)

This integrated detection and communication system extends approx. 3,000 mi. from the Labrador coast westward along the 55th parallel. The line, requiring two years to complete at a cost of about 200 million dollars, is the middle of three warning lines built across Canada. Construction and supply problems are out-Copy seen: DLC. lined briefly.

LETENDRE, GERARD, 1906- , see Durrell, W. H., and G. Letendre. Les gisements de fer de l'Ungava. 1956. No. 44690.

LETOVA, M. F., see Nauka i zhizn'. Okhotniki za rastenijami. 1956. No. 46951.

46326. LETUNOV, P. A. Printsipy kompleksnogo prirodnogo rafonirovanifa v tselíakh razvitiía seľskogo khoziaľstva. (Pochvovedenie, Mar. 1956, no. 3, p. 73-81, tables, fold. map.) 22 refs. Text in Russian. Title tr.: Principles of the general natural zoning pertaining to development of agriculture.

In view of the accelerated development of agriculture planned in the U.S.S.R., the Academy of Sciences and other scientific institutions are commissioned to submit a detailed division of the country into natural zones, taking into account the local geographic, pedologic, and climatic conditions. Work done for this purpose is briefly reported. The main results are summarized on folded map showing division (cf. legend) into 20 natural zones and 83 sub-zones, including zones of polar deserts, tundras and mountain tundras (Ural, Novaya Zemlya, Taymyr, Chukotka) and northern taiga (Verkhoyansk and Kolyma regions).

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LEVASSORT, CHRISTIANE, see Cheymol, J., and C. Levassort. Action hypothermisante des protovératrines . . . 1956. No. 44337.

LEVI, L. see Ghiringhelli, C., and L. Levi. Attività neurovascolare . . . stimolo freddo localizzato. 1955. No. 45090.

46327. LEVIN, MAKSIM GRIGOR'E-VICH, 1904—. Antropologicheskie tipy Sibiri. (*In*: Akademiñ nauk SSSR. Institut ètnografii. Narody Sibiri, 1956. p. 108–114.) 25 refs. Text in Russian. *Title tr*: Siberian anthropological types.

Discusses the racial affiliations of the indigenous population: Mongoloid-Europoid west and predominantly Mongoloid east of the Yenisey River. Intertribal and inter-racial mixtures have been continuous, yet three main ethnic types are to be distinguished: the Ural race comprising the Ostyaks, Voguls, Samoyeds, etc.; the Baykal group including the Tungus, Lamuts, Yukaghirs and Yakuts (the latter having a strong central Asiatic admixture); and the Eskimo or Arctic type consisting of Asiatic Eskimos, coast Chukchis and Koryaks, and Kamchadals. The reindeer-herding Chukchis and Koryaks form a mixed Eskimo-Baykal group. The physical characteristics and linguistic affiliation of each people are described. Copy seen: DLC.

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46328. LEVIN, MAKSIM GRIGOR'E-VICH, 1904— Antropologicheskie tipy Sibiri i ikh genezis. Moskva, Izd-vo Akademii nauk SSSR, 1956. 27 p. (Doklady sovetskol delegasii na V mezhdunarodnom kongresse antropologov i étnografov.) 6 refs. Text in Russian and French. Title tr: Anthropological types of Siberia and their genesis. (Papers presented by the Soviet delegation at the Fifth International Congress of Anthropological and Ethnological Sciences.)

Content is substantially the same as No. 46327 with an added discussion of the "Americanoid" types in the population of Siberia and the Far East. Author considers this type to be a variation and a definite (ancient) stage in the development of the Mongoloid race resulting from an admixture of an Europoid

element. Hrdlička's work is noted and attempts at racial classification by Haddon and von Eickstedt are criticized. *Copy seen:* DLC.

46329. LEVIN, MAKSIM GRIGOR'E-VICH, 1904— Antropologicheskii material iz Verkholenskogo mogil'nika. (Akademiña nauk SSSR. Institut étnografii. Trudy, 1956, nov. serifa, t. 33. Antropologicheskii sbornik, no. 1, p. 299—339, illus., tables.) 15 refs. Text in Russian. Title tr. Anthropological material from the Verkholensk burials.

Discusses the neolithic and bronze age skeletons (now at the Museum of Anthropology and Ethnography, Leningrad) found on the right bank of the Lena River by the 1950 Buryat-Mongolian and the 1951 Angara archeological expeditions, both headed by A. P. Okladnikov. The burials belong to the early-Serovsk and Glazkovsk (4th-3rd, and 2nd millenium B. C.) stages and differ in funeral inventory as well as in the orientation of the skeletons: east-west for the Serovsk, north-south for the Glazkovsk period. Each burial (four excavated in 1950 and 31 in 1951) is described in turn, and the racial affinities to the Mongoloids, Amerindians and Europeans are analyzed. Detailed cranial measurements are given and the individual skeletons compared with each other, with other pre-historic Baykal finds, and with the contemporary Tungus, Yukaghirs, Eskimos, Chukchis, Copy seen: DLC.

46330. LEVIN, MAKSIM GRIGOR'E-VICH, 1904— . Éveny. (*In:* Akademiâ nauk SSSR. Institut étnografii. Narody Sibiri, 1956. p. 760–75, illus., col. plate.) 11 refs. Text in Russian. *Title tr.:* Lamuts.

Sketches their distribution (70°-50° N. 125°-175° E.) material culture, population (approx. 7,000 in 1926). cultural and linguistic affinities between them and the Evenki, another Tungus people, are noted. The economy of the nomad hunters and the settled fishermen, their trade relations, dwellings (polereinforced tents), food and clothing are sketched. Their tribal and family organ-(patriarchate, relative indeizations pendence of women, marriage customs), religious beliefs and folklore are discussed. The economic and cultural advances; during the Soviet regime are described; creation of kolkhozes, introduction of agriculture and animal husbandry, settling of nomad hunters, etc. The collaboration of B. A. Vasil'ev is acknowledged.

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46331. LEVIN, MAKSIM GRIGOR'E-VICH, 1904– . U istokov russkof antropologii. (Akademia nauk SSSR. Institut ėtnografii. Trudy, 1956. nov. seria, t. 30, Ocherki istorii russkof ėtnografii, fol'kloristiki i antropologii. vyp. 1, p. 275–98.) Refs. Text in Russian. *Title tr.*: At the sources of Russian anthropology.

Includes mention (p. 276-77, 283) of S. P. Krasheninnikov's studies on the Kamchadals, Koryaks, etc., as described in his Opisanie zemli Kamchatki (No. 9265); and discussion of K. E. Baer's work (No. 43814) in comparative anthropology, including the Samoyeds and

Lapps, Aleuts and Koniags.

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LEVIN, MAKSIM GRIGOR'EVICH, 1904– , see also Akademiâ nauk SSSR. Institut ėtnografii. Narody Sibiri . . . 1956. No. 43522.

LEVIN, MAKSIM GRIGOR'EVICH, 1904-, see also Ivanov, S. V., and others. Nanalsy. 1956. No. 45738.

LEVIN, MAKSIM GRIGOR'EVICH, 1904—, see also Ivanov, S. V., and others. Negidal'tsy. 1956. No. 45739.

LEVIN, MAKSIM GRIGOR'EVICH, 1904-, see also Ivanov, S. V., and others. Nivkhi. 1956. No. 45740.

LEVIN, MAKSIM GRIGOR'EVICH, 1904- , see also Ivanov, S. V., and others. Orochi. 1956. No. 45741.

LEVIN, MAKSIM GRIGOR'EVICH, 1904—, see also Ivanov, S. V., and others. Oroki. 1956. No. 45742.

LEVIN, MAKSIM GRIGOR'EVICH, 1904- , see also Ivanov, S. V., and others. Udégetfay. 1956. No. 45743.

LEVIN, MAKSIM GRIGOR'EVICH, 1904-, see also Ivanov, S. V., and others. Ul'chi. 1956. No. 45744.

LEVIN, MAKSIM GRIGOR EVICH, 1904–, see also Roginskii, fA. fA., and M. G. Levin. Osnovy antropologii. 1955. No. 47643.

LEVINE, MORTON, see Fedor, E. J., and others. The effect of prolonged hypothermia . . . 1956. No. 44864. 46332. LEVINSON, N. R., and N. A. MAÑSOVA. Material'nafa kul'tura russkogo Severa v konfse xix-nachale xx veka; Kargopol'skafa ékspedifsifa 1950 goda. (Moskva. Gos. istoricheskil muzel. Trudy, 1953. vyp. 23, Istoriko-bytovye ékspedifsii 1949–1950. p. 92–140, illus.) 33 refs. Text in Russian. Title tr.: The material culture of the Russian North in the late 19th—early 20th century; the Kargopol' expedition of 1950.

The expedition, headed by the author, studied the monuments and articles of handicraft reflecting the economic and social changes during the time of expanding capitalism in the Arkhangel'skaya Oblast'. Kargopol' (approx. 61°30' N. 38°50' E.) and the villages located on the Petersburg-Arkhangel'sk trade route were investigated. The importance of local and foreign trade contributing to the rise of a wealthy middle-class is stressed. Local crafts (lumbering and wood carving, fur and leather goods production, weaving, etc.), developed to supplement meagre agricultural yields, and their products, disposed of at annual fairs, are discussed; some occupational statistics are given. Village planning, log houses, household furnishings, clothing styles, etc., are described. The progressive decline of craftsmanship due to the rise of industrialization is noted.

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46333. LEVINSON-LESSING, FRANTS TUL'EVICH, 1861–1939. Ocherednye problemy Khibinskogo massiva. (In: Fersman, A. E. Za poliārnym krugom, 1932. p. 23–26, illus.) Text in Russian. Title tr.: Current problems of the Khibiny massif.

Discusses problems disclosed by work of the "tectonic party" headed by the author in 1932 (cf. No. 47296). Are the apatite veins the result of differentiation of the original magma, or are they a result of a later new intrusion? What is the age relation of the apatites to other rocks, especially to hornstone? What was the direction of the intrusion, vertical from below, or lateral from the east, where the alkaline granites might have been the focus of intrusion? Need of further investigation for answering these questions is stressed.

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**LEVY, H. M.,** see Jasper, R. L., and others. The accumulation of fat in the liver of rats . . . 1956. No. 45771.

46334. LEWIS, ALLEN I. Navy men get arctic indoctrination. (U. S. Navy. Civil Engineer Corps bulletin, Aug. 1956, v. 10, no. 8, Navdocks P-2, p. 12-13,

illus.)

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Contains description of arctic indoctrination course taken by eight Navy officers together with 72 Army and five civilian men, Mar. 3-31, 1956, at the United States Army's Arctic Indoctrination School at Fort Greely, Big Delta, Alaska. Field exercises included a compass march, lean-to construction and living, use of explosives and land mines, ski-journeying, cross-country movement, tenting, construction of snow caves, and demonstration of various infantry equipment and its reaction to arctic use.

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46335. LEWIS, DAVID A. Protoplasmic streaming in plants sensitive and insensitive to chilling temperatures. (Science, July 1956. v. 124, no. 3211, p. 75-76.) 5 refs.

Report of investigations on young petiole trichomes of a series of plants. In the cold-sensitive species protoplasmic streaming ceased at considerably higher temperatures than in the other group. The effect of cold-exposure time on resumption of streaming, and some other intracellular responses to chilling were also studied.

\*\*Copy seen: DNLM.\*\*

46336. LEWIS, FLOYD JOHN, 1916—. Clinical application of hypothermia during open heart surgery. (In: Conference on Cold Injury. 4th, Nov. 7-9, 1955, Princeton, N. J. Transactions, pub.

1956, p. 305-328, illus., tables.) 11 refs. Contains presentation of 41 cases of cardiac operations with the aid of hypothermia, followed by account of various experiments on hypothermic rats including prolonged heart stoppage, and tumor therapy with deep hypothermia. Experiments with dogs on the effects of respiratory CO<sub>2</sub> in hypothermia, its value as anesthetic and use in human surgery, etc., are also discussed.

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46337. LEWIS, FLOYD JOHN, 1916—, and S. A. NIAZI. The use of carbon dioxide to prevent ventricular fibrillation during intracardiac surgery under hypothermia. (Surgical forum, 1956. v. 6, p. 134-37.) 7 refs.

Arrest of blood flow in hypothermic (18° C.) dogs, breathing 5-10 percent CO<sub>2</sub>, for periods of 20-30 minutes,

caused ventricular fibrillation in 4 out of 30 animals; all others tolerated the procedure and lived for one week or longer. The affected animals were easily defibrillated but died during rewarming. Right ventriculotomy performed in 9 dogs during circulatory arrest caused no fibrillation nor adverse effects.

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LEWIS, FLOYD JOHN, 1916—, see also Niazi, S. A., and F. J. Lewis. The effect . . . hypothermia on malignant growth . . . rats. 1956. No. 47005.

LEWIS, FLOYD JOHN, 1916—, see also Niazi, S. A., and F. J. Lewis. Profound hypothermia dog. 1956. No. 47006.

46338. LEWIS, H. E., and J. P. MAS-TERTON. British North Greenland Expedition 1952-54; medical and physiological aspects. (Lancet, Sept. 3, 1955. p. 494-500; Sept. 10, 1955, p. 549-56,

illus., tables, maps.) 11 refs.

Plan of expedition included physiological investigation at main base and on personnel (30 in all) returning from field. Base at Britannia Sø, icecap station "Northice," travel routes, etc., are sketched. Living arrangements at the base (with illus.), heating and sanitation, clothing including snow goggles and sleeping bags are explained. Food, diet and rations are noted. Medical activities, instruments, and drugs, the physiology laboratory and its equipment are described. The research program as outlined covered sleep rhythm, body temperature, physical efficiency, weight, basal metabolism. Medical and dental problems, accidents including frostbite Recommendations are are reported. made as to selection of personnel.

Copy seen: DLC.

LEWIS, MARION, see Chown, B., and M. Lewis. The blood group genes . . . Cree Indians . . . Eskimos . . . 1956. No. 44351.

LEWIS, O. J., see Cobbold, A. F., and O. J. Lewis. Blood flow . . . knee joint . . . dog . . . effect . . . cooling . . . 1956. No. 44399.

46339. LEWIS, ROBERT B. Action du réchauffement à retardement sur la gelure expérimentale. (Médecine aéronautique, 1956. t. 11, no. 1, p. 145-47, table.) Text in French. *Title tr.:* The effect of

delayed rewarming upon experimental frostbite.

Report on experiments with rabbits having their lower extremities exposed to -15° to -16° C. and subsequently rapidly rewarmed at intervals of 0.5 to 4 hours following exposure. Delay in rewarming caused more extensive injury. Copy seen: DNLM.

46340. LEWIS, ROBERT B., and C. G. HOAK. Effect of delayed rapid warming on experimental frostbite. Randolph Field, Texas, July 1955. 3 p. table. (United States Air Force School of Aviation Medicine. Report no. 55-59.) 11 refs. Processed print.

Account of experiments with 351 male rabbits. Frozen legs thawed at room temperature for 30 min. and then rapidly warmed in water of 42° C. developed considerably less gangrene than controls thawed in air only. No benefit was obtained by delaying rapid warming in water for 1-4 hrs.

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46341. LEWIS, ROBERT B., and C. G. HOAK. Effect of delayed warming on experimental frostbite. (U. S. Armed Forces medical journal, Feb. 1956. v. 7, no. 2, p. 172-78, tables.) 9 refs.

Account of experiments with frostbitten rabbit legs. The results indicate "that damage occurs not only while the parts are frozen but also during the postthaw period before the tissue tempera-tures reach normal." Copy seen: DLC.

LEWIS, ROBERT B., see also Pomerat, C. M., and R. B. Lewis. Thermal stress and tissue culture, 1 . . . rapid freezing and thawing on chick . . . cells. No. 47397.

LEWIS, ROBERT B., see also Pomerat, C. M., and R. B. Lewis. Thermal stress and tissue culture, 2 . . . rapid freezing and thawing on human . . . skin. 1953. No. 47398.

LEWIS, W. V., see McAllister, R. F. Unusual . . . ice cones from Umnak Island. 1956. No. 46513.

LEWIS, W. V., see Robin, G. de Q., and others. The future . . . glaciology . . . 1956. No. 47616.

LEWIS-JONSSON. 46342. Sveriges planteskoler. (Norske skogplanteskoler. Arsskrift, 1950, p. 71-80.) Text in Norwegian. Title tr.: Sweden's nurseries.

Includes discussion of the unsatisfactory condition of forest in northern Sweden, partly as a result of poor manage-Copy seen: DA.

46343. LI, FANG-KUEL. A type of noun formation in Athabaskan and Eyak. (International journal of American linguistics, Jan. 1956. v. 22, no. 1, p. 45-48.) 5 refs.

Discusses the similarities (structure) and differences (vocabulary, phonology morphology) between Eyak and Athapaskan. The conclusion is drawn that, though the two are related, Eyak is not of Athapaskan stock but belongs together with Athapaskan to a common Na-Dene prototype (cf. No. 15339).

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LIAKHOVICH, V. B., see Komarov, A. A., and V. B. Lîakhovich. Lesonasazhdeniîa . . . 1956. No. 46055.

46344. LIAKHOVICH, V. V. O biotitovom porfirites r. Viliûia. (Akademiia nauk SSSR. Izvestifa, serifa geologicheskafa, Apr. 1956. god 21, no. 4, p. 102–109, illus., tables.) 10 refs. Text in Russian. *Title* tr.: Biotite-porphyrite from the Vilyuy River.

Microscopic and spectral studies of comparatively small dikes of porphyrite, containing dark leaves of mica are described in detail. The results of analyses and comparison with petrographic characteristics of Siberian traps are presented in tables and macrophotographs. Macroscopically, porphyrite is represented by aphanitic rocks with lustrous scales of biotite mixed with zeolites. A thin section of biotite shows inclusions of pyroxene, titanomagnetite, rutile and apatite. The chemical and optical characteristics of various samples are tabulated. Copy seen: DLC.

46345. LIAKHOVICH, V. V. O pizolitovykh tufakh na Sibirskoĭ platforme. (Akademiía nauk SSSR. Doklady, Sept. 1, 1956. t. 110, no. 1, p. 137-39, illus., plate.) 9 refs. Text in Russian. Title tr.: On pisolite tuffs of the Siberian platform.

Tuffs observed in the region of the Podkamennaya and Nizhnyaya Tunguska Rivers, also the Chon, in Krasnoyarskiy Kray, are volcanic in origin. They enclose so-called pisolites, or small (2-4 mm.) globular concretions consisting of quartz, plagioclase and grains of pyroxene of various colors: yellow-gray, bluegrayish or brick-red. The origin of pisolites is uncertain but three ways of their formation are suggested: from rain droplets falling into loose volcanic ash and forming dusty globules; (2) from rain drops passing through atmosphere filled with volcanic ash; (3) from the condensation of vapor around ash grains in an eruptive cloud. The presence of volcanic tuffs on the Siberian platform is proof of intensive volcanic activity in this region in the past.

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46346. LÂSHENKO, G. P. O stratigraficheskom znachenii tentakulitov. (Akademifa nauk SSSR. Doklady, 1953. nov. serifa, t. 91, no. 2, p 371–74.) 6 refs. Text in Russian. *Title tr.*: The stratigraphic significance of the tentaculites.

A gross- and microscopic-anatomic study of these fossil molluses from the Timan Mountains and the Russian platform. Their occurrence and distribution in various Russian and other paleozoic strata is discussed. Their stratigraphic-diagnostic value is pointed out.

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LIBERMAN, A., see Duzhkin, N., and A. Liberman. Okonnye korobki . . . 1956. No. 44693.

46347. LICHKOV, B. L. O zakone gorizontal'nol zonal'nosti V. V. Dokuchaeva v primenenii k gruntovym vodam i o stepeni podchinenifa gorizontal'nol zonal'nosti ostal'nykh podzemnykh vod. (Geograficheskoe obshchestvo SSSR. Geograficheskii sbornik, 1954, no. 6, Voprosy izuchenia vodnykh resursov, p. 81-119, tables, maps (3 fold.).) 83 refs. Text in Russian. Title tr.: V. V. Dokuchaev's law of horizontal zonality in application to ground waters and the degree of subordination of other subterranean waters to the horizontal zon-

Attempts at zoning of the earth's surface have been based chiefly on study of climate, flora and fauna. V. V. Dokuchaev stressed the significance of soils as the indicator best reflecting all the conditions of any zone. The followers of Dokuchaev, V. S. Il'in, V. V. Alabyshev, and others, have tried to extend this concept of a natural zone to the underground layers of ground water. Their studies are summarized and completed by the author. Various types of ground and other subterranean waters in arctic and subarctic areas are included;

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and the division of these areas into zones is shown on maps of U. S. S. R. and of the world. Copy seen: DLC.

LID, DAGNY TANDE, see Gjaerevoll, O., and R. Jørgensen. Fjellflora. 1952. No. 45130.

46348. LID, JOHANNES, 1886. Nye plantefunn 1945–1949. (Blyttia, 1950. bd. 8, nr. 2, p. 42–53.) Text in Norwegian. Summary in English. *Title tr.:* New plant finds 1945–1949.

Lists 165 plants found recently, for the first time, in Norway and some recognized as new in revision of herbarium material. General distribution and extended northern limits of species listed include many arctic locations.

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46349. LID, JOHANNES, 1886—. Nye plantefunn 1950–1951. (Blyttia, 1952. bd. 10, hefte 4, p. 95–105.) 13 refs. Text in Norwegian. Summary in English. *Title tr.*: New plant finds, 1950–51.

Annotated list of identified species from new locations. Species found in arctic Norway include some whose northern limit is thus extended.

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46350. LID, JOHANNES, 1886—. Nye plantefunn 1952–54. (Blyttia 1955. bd. 13, hefte 2, p. 33–49.) 17 refs. Text in Norwegian. Summary in English. Title tr.: New plant finds, 1952–1954.

Contains an annotated list of 147 species, varieties and hybrids of vascular plants reported from various places of Norway, which are new localities for them. Twenty-four of them were not previously published. A few species are from northern provinces.

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46351. LID, JOHANNES, 1886— . Salix polaris x reticulata (S. landmarkii) nov. hybr. (Blyttia, 1951. bd. 9, hefte 2, p. 59-61, illus.) 5 refs. Text in Norwegian. Summary in English.

This new hybrid from Javrreoaivve (69°30′ N.) Nordreisa, Troms, was found and identified by A. Landmark in 1901. Differences between it and the parent species are described. Landmark's original specimens are now in the Botanical Museum in Oslo.

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LIDOV, V. P., see Obruchev, S. V. Spravochnik puteshestvennika . . . 1949–50. No. 47123.

LIENK, SIEGFRIED E., see Sailer, R. I., and others. Notes on Culicoides . . . 1956. No. 47754.

46352. LIESTØL, OLAV, 1922– . Glacier dammed lakes in Norway. (Norsk geografisk tidsskrift 1955, nr. 3–4, i. e. bd. 15, 1955–56, h. 3–4, p. 122–49, illus., maps incl. 1 fold., table, diagrs.) 21 refs. Also issued by the Norsk Polarinstitutt as its Meddelelse nr. 81.

The drainage mechanism of glacier dammed lakes is discussed briefly and eight such lakes in Norway, two of them in the far North, are described. For each, the location and volume, floods (duration, speed of flow, etc.), also investigations over the years and the depletion process are considered, and a map of each area is provided. The theory that water from such lakes forces a small passage beneath the ice, and by melting extends and keeps open a tunnel is treated in some detail.

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**46353.** *LIFE.* Mirage in the Arctic. (Life, Feb. 6, 1956. v. 40, no. 6, p. 14–15, illus.)

Photographs (three) illustrating a typical mirage viewed from water toward land in which the distant shore line appears close. The pictures were taken at Mugford Tickle on the Labrador coast.

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**46354.** *LIFE.* Sprouting domes on DEW line. (Life, Apr. 30, 1956. v. 40, no. 18, p. 133–36, +, illus., map.)

Contains photographs and brief account of construction activities and living conditions at an early warning radar site. A close-up view is given of the plastic dome which houses the rotating search mechanism. The radar installations are intended to provide 4-6 hr. warning before 600 m. p. h. enemy aircraft could reach industrial centers in the United States.

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LIIMOLA, MATTI, see Kannisto, A. Wogulische Volksdichtung . . . 1951, 1955. No. 45880.

46355. LILJEQUIST, GÖSTA H. Infor Det internationella geofysiska året 1957– 58. (Ymer 1956. årg. 76, häfte 4, p. 273–93, illus., maps.) 3 refs. Text in Swedish. *Title tr.*: On the eve of the International Geophysical Year 1957–58.

Reviews background, organization, and projects in meteorology, cosmic physics, glaciology, etc. In the Arctic, activities at existing meteorological sta-

tions will be intensified, several expeditions will be mounted, among them one Swedish-Finnish-Swiss and one Polish to Spitsbergen; an international expedition (probably post-I. G. Y.) will study the inland ice and glaciers in Greenland, There is to be a common Scandinavian arctic meteorological center in Oslo, The Swedish-Finnish-Swiss expedition with base (80°03' N. 18°18' E.) at Kinnvika on Murchisonfjorden, Nordaustlandet, July 1957-Aug. 1958, will have ten Swedish, two Finnish and two Swiss members apart from summer parties; its equipment and planned work are stated. Swedish plans for IGY also include intensified observations in Sweden itself: photographing aurora borealis, and the modernizing of the geophysical observatory at Kiruna, etc.

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46356. LILJEQUIST, GÖSTA H. Isvintern 1941–42. Stockholm, 1942. 15 p. diagrs., illus., maps, tables. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, serien uppsatser, no. 43.) 8 refs. Text in Swedish. Summary in English. Title tr.: The ice winter 1941–42.

Ice and temperature conditions along the Swedish coast and in the Baltic area during this winter are described and compared with normal conditions. On the basis of mean temperatures of the three coldest months, 1941–42 was the coldest winter at Stockholm since 1756 when regular observations were started. Ice break-up was very late on the west coast and in the Baltic. Break-up in some areas was similarly the latest on record. Swedish waters were ice-free on June 6.

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LILJÉQUIST, GÖSTA H., see also Hoppe, G., and G. H. Liljequist. Det sista nedisningsförlopped i Nordeuropa... meteorologiska... 1956. No. 45608.

46357. LILLIE, D. F., and R. TREMBLAY. Leaching of uranium from gravity mill tailings at Port Radium, N. W. T. (Canadian mining and metallurgical bulletin, Apr. 1956. v. 49, no. 528, p. 262-73, 3 illus., diagrs., 4 tables.) 3 refs. Also pub. as: Canadian Institute of Mining and Metallurgy. Transactions, 1956. v. 59, p. 162-73.

The leaching plant of Eldorado Mining & Refining Ltd. started operations in May 1952 to recover by chemical processes the uranium in gravity plant

tailings. Gravity plant operations are described by R. L. Behan, q. v. Tailings discarded prior to 1952 and dumped into Great Bear Lake are also being reclaimed and retreated. Plant was designed to handle 300 tons daily. Operation of the pilot plant installed in 1950 is described. Then follows description of the present leaching plant, its construction and processes: grinding, thickening, leaching, acid filtration, precipitation; also precipitate handling, sampling, chemical control, corrosion control, and the manufacture of sulfuric acid for the leaching process. Duties of operating personnel are noted. Copy seen: DGS.

LILLIE, D. F., see also McNiven, J. G., and others. Milling Port Radium. 1956. No. 46553.

46358. LIND, HARALD. Observations on the Quaternary geology of Andørja-Rolla-Gratangen; Troms, northern Norway. Tromsø, Tromsø museum, 1955. 21 [2] p., 7 illus. (Acta borealia A,

Scientia, no. 9.) 21 refs.

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The region studied is on the Norwegian coast, approx. 69° N., Andørja and Rolla are two large islands off the mainland, outside Gratangen, a branch of Astafjorden. Sketch of its geography is followed by discussion of glacial striae, moraines and shorelines. At maximum extension of the last age, the mountains inland of Troms as well as those of Andørja and Rolla were under ice. Melting began with a retreat of the ice, but a colder period caused two new advances. The phases of these transgressions and regressions and corresponding moraines and shore lines are shown on fig. 7–8.

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46359. LINDBERG, GEORGII USTI-NOVICH. Chetvertichnyi period v svete biogeograficheskikh dannykh. Moskva, Izd-vo Akademii nauk SSSR, 1955. 334 p., maps, incl. fold. map, 27 tables, 381 refs. Text in Russian. *Title tr.:* The Quaternary period in light of biogeographical data.

The geological history of fauna (fishes) is outlined for Okhotsk and Bering Seas, in relation to changes of ocean level (regression and transgression) as reflected in analysis of fresh-water fishes of Alaska (Yukon), the Chukotsk Peninsula, Amadyr and Kamchatka River systems (fig. 13). Six hypotheses on the origin of underwater valleys and canyons, including the relief of the Bering Sea are

analyzed in addition to the hypotheses on catastrophic variations in ocean levels. Vibratory motion of the world ocean levels is discussed with consideration of changes due to movement of water masses (hydrocratic), due to vibration of the earth's crust (geocratic) and due to thawing and accumulation of ice (hydroeustatic). History of formation of the river basins in the western Siberian lowland is outlined in detail for Kara Sea, Ob', Irtysh, Yenisey, etc. Practical significance will be in the synchronization of known transgressions and regressions of various Russian seas (North, Baltic, White, Barents and East Siberian Seas). This synchronization will give the basis for stratigraphy of Quaternary deposits related to hydrogeocratic variations of world ocean levels. Copy seen: DLC.

46360. LINDBERG, GEORGIĬ USTI-NOVICH. K chetvertichnol istorii dal'nevostochnykh morel. (Akademila nauk SSSR. Doklady, Nov. 11, 1956. god 24, t. 111, no. 2, p. 422-24.) 3 refs. Text in Russian. *Title tr.:* On the Quaternary history of the Far Eastern seas.

That no less than three transgressions and regressions of the ocean took place in the Far East during the Quaternary period, is offered as an hypothesis tenable from the biogeographic and paleontological viewpoints. Analysis of the relationship and distribution of fishes of the Far Eastern seas and data of diatom analysis in the Bering and Okhotsk offer conclusive evidence of oceanic fluctuations. The "geohydrocratic hypothesis" seems to merit acceptance as a good working theory for study of the Quaternary history of the region. Copy seen: DLC.

46361. LINDBERG, GEORGII USTI-NOVICH, and M. I. LEGEZA. O dvukh formakh kolûchel akuly Squalus acanthias L. (Zoologicheskil zhurnal, Nov. 1956. t. 35, vyp. 11, p. 1685–88, 2 illus.) 6 refs. Text in Russian. Title tr.: On two forms of the spring dogfish, Squalus acanthias L.

Two forms are differentiated and discussed, and measurements given, partly on the basis of specimens from the Barents (Teriberka, Murman), White and Okhotsk Seas.

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46362. LINDBERG, HÅKAN, 1898—. Nordliga och sydliga element i kustvattnens insektfauna. (*In*: Nordenskiöldsamfundet i Finland. Skärgårdsboken,

1948. p. 471-81, illus., maps.) 16 refs. Text in Swedish. *Title tr.:* Northern and southern elements in the insect fauna of coastal waters.

Along coasts where land has risen in recent geologic time, rock basins containing water the year round also contain forms of aquatic life whose character changes with that of the water. basins are low enough to receive some salt water from high waves, the water is brackish. Those beyond wave reach become filled with vegetation. Small basins with white moss now high in elevation, were once vegetationless and at strandline. Local climate also influenced the life forms. The youngest, lowest, basins are occupied by a limited range of higher vegetative and biologic forms. The older ones, with richer vegetation and bottom sediment, are more complicated biotopes. Study of stone basins in Fennoscandia reveals two distribution groups; one in the Arctic, sub-Arctic, and northernmost part of the coniferous forest and the higher alpine and subalpine belts. The second group is in southern and central Fennoscandia, and in this group the northern forms are relicts, or pseudo-relicts, where conditions have changed little from those of northern Copy seen: DLC. group.

LINDBERG, HÄKAN, 1898-, see also Jensen-Haarup, A. C., and H. Lindberg. Halvvingar: Hemiptera. 1931. No. 45790.

46363. LINDBERG, HARALD, 1871— Die Früchte der Taraxacum- Arten Finnlands. Helsingforsiae, 1935. 22 p. illus. (331 fig.) on 38 plates. (Acta botanica fennica, no. 17.) 41 refs. Text in German. Title tr.: The fruits of the species of Taraxacum in Finland.

Contains information on the taxonomy of this genus of herbs, of which the dandelion is best known and on the distribution of its forms in Finland. Their only reliable taxonomic criterion is the fruit; its characteristics are presented in the main Taraxacum groups, and instructions given for collecting it. This textual part is followed by illustrations of fruit from 331 species, including those of Lapland.

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46364. LINDBERG, HARALD, 1871—. Släktet *Meligethes* (Col.) i Fennoscandia orientalis. (Notulae entomologicae, 1956. v. 36, no. 3, p. 72–76.) Text in Swedish.

Title tr.: The genus Meligethes (Col.) in eastern Fennoscandia.

Host plants and localities are listed for 25 species of this beetle. Three occur in the far North: M. atratus in Kuusamo and Finnish and Russian Lapland; M. aeneus at Kuusamo and Rovaniemi; and M. viduatus at Rovaniemi and Kemijärvi.

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46365. LINDELL, BÖRJE. Första fjällveckan. (Svenska turistföreningen, Stockholm. Årsskrift, 1954. p. 261–69.) 6 illus. Text in Swedish. *Title tr*: The first week in the mountains.

Describes a walking tour in the fall, from near Jokkmokk, beyond Sarek, in the direction of Kebnekaise, in northern Swedish Lapland, interrupted when snowstorms shut in the higher Kebnekaise district. The daily marches, landscape, etc., are noted, also huts, provisions, and other accommodations available.

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46366. LINDENBERG, A. B., and M. MASSIN. Influence de la température sur la statique et la cinétique de la pénétration cellulaire de l'urée, de la thiourée et de la sulfanilamide. (Journal de physiologie, 1956. t. 48, no. 3, 616–18, tables.) Ref. Text in French. Title tr.: Influence of temperature upon the statics and kinetics of cellular penetration of urea, thiourea and sulfanilamide.

The reported experiments were conducted with yeast cells in a temperature range of 3° to 30° C. The preferential solubility of the aqueous-cellular medium decreased with falling temperature. The speed of penetration of the three substances also fell at low temperatures. The molecular and energy aspects of these phenomena are discussed.

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LINDGREN, LEO, see Laine, U., and others. Havaintojo Utsjoen pitäjän länsiosan kasvistosta. 1955. No. 46215.

46367. LINDGREN, PERCY. Hypotermi, ett nytt medel inom läkekonsten, 2; fysiologiska synpunkter. (Nordisk medicin, 1956. bd. 56, no. 44, p. 1582–85, illus.) 20 refs. Text in Swedish. Sumary in English. *Title tr.:* Hypothermia, a new means in medicine, 2; physiologic aspects.

A discussion of the main physiological phenomena taking place during hypothermia, especially in the range of 30° to 20° C. Hypothalamic control of

temperature; cortical and medullary functions; cardiac output; respiration and gaseous metabolism; electrolyte balance, plasma volume, clotting time; absorption, action and elimination of drugs, etc., and their changes with falling body temperature, are described. The importance of strictly standardized experimental conditions is stressed. Other papers in this series are by J. Adams-Ray and E. Nilsson, q. q. v.

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46368. LINDHAGEN, SVEN ALBERT, 1896– . Från Pava-Lasse till Mora-Nisse. Stockholm, Tidens förlag, 1953. 334 p., illus. Text in Swedish. *Title* tr.: From Pava-Lasse to Mora-Nisse.

The story of skiing as a Swedish sport, from the time of Pava Larsson (Lasse) Tuorda, a Lapp, who won the first organized ski meet in 1884, to Nils Karlsson (Mora-Nisse) recent (1943-51), famed champion. Leading Swedish skiers and Sweden's place in skiing as an international sport are discussed. Appended is a list of Swedish winners of events in Olympic, Holmenkollen, and other international meets after 1927. Swedish Lapland and Lapps figure prominently, especially in the earlier history.

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46369. LINDMAN, CARL AXEL MAGNUS, 1856–1928. Om drifved och andra af hafsströmmar uppkastade naturföremål vid Norges kuster. Göteborg, 1883. 106 p. incl. 3 plates, tables. (Göteborgs kungl. vetenskaps- och vitterhets-samhälle. Handlingar, ny tidsföljd, häft. 18.) Text in Swedish. Title tr.: On driftwood and other natural objects east up by ocean currents on the coast of Norway.

The driftwood on arctic coasts is transported thither from its native locations by ocean currents. The current off Norway's coast is the strongest entering the Arctic; deposits are common along the entire coast, greatest in Lofoten and Troms, and localized to special strands. Scientific names and other information are provided for coniferous and deciduous are provided for coniferous and deciduous the species whose fruit and seeds have been gathered. Copy seen: DLC.

46370. LINDQVIST, EITEL. Revision einiger von schwedischen Entomologen beschriebenen Nematinen: Hym. Tenthredinidae. (Opuscula entomologica Jan. 31, 1956. bd. 21, häfte 1, p. 8–14, illus.) 14 refs. Text in German. *Title*  tr.: Revision of some Nematinae (Hym. Tenthredinidae) described by Swedish entomologists.

Deals with present taxonomic status of various species of this subfamily; geographic distribution is given in only a few cases. Pristiphora flavipes is recorded in Senjen Island, in the vicinity of Tromsø, northern Norway.

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46371. LINDROTH, CARL HILDE-BRAND, 1905- . Die fennoskandischen Carabidae, eine tiergeographische Studie. I, spezieller Teil; II, die Karten; III, all-Teil; zugleich eine biogeogemeiner graphische Prinzipdiskussion. Göteborg, Wettergren & Kerber, 1945–1949. 3 v.: 709 p., map.; 277 p., 338 text maps; 911 p., 118 illus. incl. text maps, 61 diagrs., 38 tables. (Göteborgs K. Vetenskapsoch vitterhets-samhälle. Handlingar, 6 följden, ser. B, bd. 4, no. 1–3.) Approx. 500–800 refs. Text in German. Summary in English (in pt. 3, p. 813-42). Issued also as "Meddelanden från Göteborgs Musei Zoologiska Avdelning, 109, 110 and 122." Title tr.: Fennoscandian Carabidae, a zoogeographic study. 1, special part; 2, maps; 3, general part; together with a discussion of biogeographical principles.

Basic work, of which the first two parts, published in 1945, offer "a full account of the distribution, ecology, biology and dynamics (i. e. power of dispersal) of every species of the Carabidae, 361 in number, occurring in Fennoscandia. Distribution maps (pt. II) are given for nearly all of them. The . . . third part of the work deals with the material from the general point of view, with the chief purpose of elucidating the glacial and postglacial history of the Fennoscandian fauna."—from summary, p. 813.

The introductory section discusses modern insect systematics, use of literature and various technical terms (synöcology, syngeography); it is followed by an analytic section dealing with methods of investigation, influence of environmental factors and selection, distribution of dimorphic forms, etc. In the synthetic section "existence factors" are studied: climate, temperature, precipitation and humidity, ground, etc., as well as nutriment, competition; also such dynamic factors as flight power, wind dispersal, water dispersal, etc. History of the fauna is treated: its changes in recent times, fossil finds, relicts, postglacial immigration and the problem of "Würm, i. e., the last glaciation, hibernation." Many arctic species are included, as the work covers in its broad scope, Norwegian, Swedish, Finnish and Russian Lapland, also Karelia, the White Sea coast. Supplemental data to pts. 1-2 is given on p. 843-69 of pt. 3.

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46372. LINDSKOV HANSEN, JO-HANNES, 1907— . Gensyn med Grønland. København, Munksgaard, 1952? 27 p., illus. Text in Danish. Title tr.:

Seeing Greenland again.

After two visits to Greenland, in 1946 and 1952, this Danish author writes of Greenland's experience of being cut off from Denmark during World War II, and the differences noted in activities during the six-year interval. The first journey seemed an adventure, the second a business trip. Danes migrating to Greenland are changing in their attitude toward its colonialism; many favor permanent immigration and a future in Greenland. Illustrated by drawings of Ernest Hansen. Copy seen: DLC.

46373. LINDSTRÖM, MAURITS. Structural geology of a small area in the Caledonides of arctic Sweden. Lund, 1955. 32 p. 19 illus., 4 maps. (Mineralogisk- och paleontologisk-geologiska institutionerna, Skrifter, nr. 27) Also issued as: Lund. Universitet. Aarsskrift,

bd. 51, nr. 15. 18 refs.

Bedrock over an area of approximately 8 km², at the northwestern end of Lake Torneträsk near the Norwegian frontier, was studied in an attempt to ascertain its structural history. The general sequence of rocks is described. It appears that a dome of the Archean basement is free here of overlying rocks. Eastward and westward the rock sequences rise, to the west at the rate of 100 m.: km. After field investigation and mapping, thin sections were examined. It is concluded that three and possibly four phases of deformation took place in the overthrust Caledonides. Copy seen: DGS.

LINDSTROM, MAURITS, see Norsk geologisk tidsskrift. Second Nordic Geologic... meeting...1956. No. 47080.

46374. LINDT, CHESTER C. Underwater behavior of the southern sea lion, Otaria jubata. (Journal of mammalogy, May 1956. v. 37, no. 2, p. 287-88.)

Contains description of behavior of a herd as seen and photographed with modern equipment. Activity and play of the female and young, while male patroled the area barking; relation to other bulls, fishes and divers; behavior of the young; breathing underwater, etc., are registered.

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LINELL, KENNETH A., see Hansen, R., and K. A. Linell. Strength and uses of fresh and salt water ice. 1956. No. 45429.

LINKO, A. K., see Breitfus, L. L. Trudy Murmanskoi nauchno-promyslovoi ėkspeditsii 1906 goda . . . 1915. No. 44128.

46375. LINKOLA, PENTTI. Giv rovfåglarna plats i vår natur. (Finlands natur, 1952. årg. 11, p. 20-29, illus.) Text in Swedish. *Title tr.:* Give predatory birds a place in our nature.

The concept that predatory birds should be eradicated is attacked as obsolete. Their preservation is defended in a discussion of the balance of nature, of most hunters' inability to distinguish species, and the lack of individual names in Finnish by which certain bird species may be differentiated. Arctic species of owls and eagle are included among examples of predators cited.

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**46376.** LINNAVUORI, RAUNO. Hemipterological observations. (Suomen hyonteistieteellinen aikakauskirja, 1951. v. 17, no. 2, p. 51–65, 10 illus.) 36 refs.

Lists 30-odd species, with descriptions of three new ones, also critical notes and distributional data on others; three are from the far North: Tetraphleps aterrima from the Kuusamo region and Finnish Lapland, Micronecta poweri (=borealis) from Kuusamo, and Psylla nigrita (=dudai) from Petsamo.

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**46377.** LINNAVUORI, RAUNO. Hemipterological studies. (Suomen hyönteistieteellinen aikakauskirja, 1953. v. 19, no. 3, p. 107–118, 6 illus.) 17 refs.

Contains an annotated list of 19 species from various regions. A genus and 11 species are described as new, and at least ten species are native to northern Scandinavia, Kola Peninsula, the lower Yenisey (70°10′-70°40′ N.), the middle and lower Lena River region and Chukotsk Peninsula. Copy seen: DA.

46378. LINNAVUORI, RAUNO. Hemipterologisches aus Finnland, I-II. (Suomen hyönteistieteellinen aikakauskirja, 1949. v. 15, no. 4, p. 145–56, 5 illus., text map; (II) 1950, v. 16, no. 4, p. 182–88, 3 illus.) 15+16 refs. Text in German. Title tr.: On Hemiptera from Finland, I-II.

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Contains (in pt. I) descriptive and critical notes on about 40 species, of which one and a subspecies are described as new, and another, Cicadula ossiannilsson, occurs in Finnish and Russian Lapland. Pt. II deals with nine species, one of them new to science and four to Finland. Typhlocyba soror n. sp., Coriomeris scabricarnis and Psammolettix albomarginatus, all collected in the Oulankajoki River basin in the Kuusamo region, are included.

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46379. LINNAVUORI, RAUNO. On some new or interesting leafhopper species of the family Cicadellidae. (Suomen hyönteistieteellinen aikakauskirja, 1953. v. 19, no. 2, p. 56-63, 3 illus.) 5 refs.

Lists, with notes, 15 species from various regions; two genera, seven species and a variety described as new. Sorhoanus medius from Ust Aldan on the Lena River and Diplocolenoidea perexigua n. sp. from Yakutsk, are included.

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46380. LINNAVUORI, RAUNO. Some interesting beetle finds from Finland. (Suomen hyönteistieteellinen aikakauskirja, 1953. v. 19, no. 3, p. 134–36, illus.) 6 refs.

Lists seven species. Proteinus apicidens, previously known only from northernmost Lapland (Inari and Enontekiö regions), is recorded at Ylivieska, Raudaskylä; and Tachinus atripes (male) is described from Lapland.

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46381. LINNÉ, S. The Bering isthmus, bridge between Asia and America. (Ethnos, 1955. v. 20, no. 4, p. 210–15, illus., diagr., map.) 3 refs.

Discusses the migration route theories, favoring the hypothesis of a crossing over a land bridge that connected the two continents during the glacial and probably also the postglacial periods. Data on distances and bottom profile of the Strait are given, the present sea level compared with that during the ice age, and the discovery of the strait by S. I. Dezhnev (1648) and V. Bering (1728) mentioned.

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46382. LINNIK, E. Éskimosy. (Vokrug sveta, Aug. 1956, no. 8, p. 22–23, illus.) Text in Russian. *Title tr.:* Eskimos.

Popular sketch of Eskimos in America and Greenland: their hunting, kayaks and umiaks, dwellings; their carving, mapping, acculturation.

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46383. LINTON, EDWIN, 1855–1939. Notes on cestode parasites of sharks and skates. (U. S. National Museum. Proceedings, Oct. 27, 1924. v. 64, art. 21, no. 2511, p. 1–119, 13 plates.) 29 refs.

Contains a critical study of 71 species of selachian cestodes, nine described as new; based chiefly on material obtained by the Laboratory of the U. S. Bureau of Fisheries, Woods Hole, Mass. Monorygma perfectum found in the stomach of a sleeper shark, Somniosus brevipinna, (p. 16-19) Moser Bay, Alaska, in 1903, is included.

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46384. LINTVAREV, V. Ezdovye laĭki Nizhne-Kolymskogo raĭona. (Okhota i okhotnich'e khozíāistvo, Dec. 1956, no. 12, p. 27–29, illus.) Text in Russian. Title tr.: Draught dogs in the Nizhne-Kolymsk District.

Siberian huskies of the lower Kolyma, Yana and Indigirka River basins are ranked among the best draught dogs in the world, and the Nizhne-Kolymsk District is the main source of supply for other northern areas. The dogs are notable for their endurance: making 40-60 km. in winter at —40° to —50° C., they need only 1.5 kg. of fish per day. Some shortcomings in breeding them are mentioned: castration of male dogs, crossing with other and poor strains, etc., and measures are discussed for keeping the race pure.

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46385. LIPSHITS, B. A. Étnograficheskie issledovanifâ v russkikh krugosvetnykh ékspedifsifakh pervof poloviny xix v. (Akademifa nauk SSSR. Institut étnografii. Trudy, 1956, nov. serifa, t. 30, Ocherki istorii russkof étnografii, fol'kloristiki i antropologii, vyp. 1, p. 299–322.) Approx. 40 refs. Text in Russian. Title tr.: Ethnographic investigations of the Russian expeditions around the world in the first half of the 19th century.

Includes (p. 302-310) the studies on Kamchadals, Chukchis, Eskimos, Aleuts, Tlingits, etc., made by Russian explorers of northeastern Asia and Alaska. The works of IU. F. Lisfanskii on the Koniags (Eskimos) of Kodiak and the Tlingits of the Sitka region, O. E. Kofsebu on the Eskimos of northwest Alaska, F. P. Litke's description of the marriage customs (exogamy), religious beliefs, blood feuds, etc., of the Tlingits, and the investigations conducted on Kamchatka by G. I. Langsdorf, V. M. Golovnin, et al. are Early observations on the discussed. trade relations, cultural affinities, etc., between Alaskan Eskimos and Chukchis are noted. The 19th century ethnological errors due to over-emphasis of certain linguistic similarities and classifying of Chukchis as Eskimos are analyzed.

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46386. LIPSHITS, B. A. L. A. Zagoskin, kak issledovatel' étnografii Alıâski. (*In:* Zagoskin, L. A. Puteshestviß i issledovaniß, 1956. p. 385–98, port., map.) 20 refs. Text in Russian. *Title tr.:* L. A. Zagoskin, explorer of ethnography in Alaska.

Contains outline of Zagoskin's views on the objectives and method of ethnographic studies; with a summary of his exploration of Eskimo and Indian tribes in Alaska during his "pedestrian" expedition to Yukon and Kuskokwim River basins in 1842–1844. The scientific importance and lasting value of his work is stressed. Copy seen: DLC.

46387. LIPSHITS, B. A. O kollektsiiākh Muzeta antropologii i ėtnografii, sobrannvkh russkimi puteshestvennikami i issledovateltāmi na Altāske i v Kalifornii. (Akademitā nauk SSSR. Muzet antropologii i ėtnografii. Sbornik, 1955. t. 16, p. 358–69, illus.) 18 refs. Text in Russian. Title tr.: The collections of the Museum of Anthropology and Ethnography, gathered by Russian travelers and explorers in Alaska and California.

Describes objects, collected by: G. I. Sarychev and J. Billings (1785), ÎU. F. Lisânskil, F. P. Litke, V. M. Golovnin, I. G. Voznesenskil, L. A. Zagoskin, A. F. Kashevarov and K. T. Khlebnikov during the time of the Russian-American Co. (1797–1867), and the missionary G. Chudnovskil (1891). The bulk of the collections, over two-thirds of the ethnographic material contributed by I. G. Voznesenskil, came from Alaska and the adjacent islands and consists of: wearing apparel made of fur, skin, and marine mammal intestines (kamleâ), ceremonial and war masks, wood and bone implements, and boats (baldarka). Aleut,

Eskimo and Indian work are all represented. The individual collections, the number of items in each, and some facts pertaining to their acquisition are discussed. Photographs illustrate some 70 of the objects, several of the masks quite clearly. The Museum of Anthropology and Ethnography of the Academy of Sciences is in Leningrad.

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LIPSHITS, SERGEÏ IŪL'EVICH, 1900-, see Lebedev, D. V., and S. IŪ. Lipshifs. Bibliograficheskil spravochnik . . . 1956. No. 46276.

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LIPSKAÍA, N. A., d. 1942(?), see Ivanov, S. V., and others. Nanatísy. 1956. No. 45738.

46388. LISITSYN, A. P. Izmeneniâ vlazhnosti v dlinnykh kolonkakh iz Beringovogo morâ. (Akademiâ nauk SSSR. Doklady, May 11, 1956. v. 108, no. 2, p. 313–16, 3 diagrs., table.) 2 refs. Text in Russian. Title tr.: Differences in humidity in long cores from the Bering Sea.

Report based on some 1,000 determinations of water content of cores from bottom sediments. There was, in general, a decrease in water content with depth indicating increasing lithification in this direction. The material was collected during the cruises of Vitlar', 1950–1954 in the western part of the Sea.

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46389. LISITSYN, A. P. Vlazhnost' donnykh otlozhenii zapadnoi chasti Beringova moria. (Akademiia nauk SSSR. Doklady, Mar. 21, 1956. t. 107, no. 3, p. 455-58, 3 illus.) 10 refs. Text in Russian. Title tr.: Water content of bottom deposits of western Bering Sea.

Based on investigations carried out on the Institute of Oceanology's research vessel Vitūz' in 1950-54; the bottom deposits are divided into six groups according to water content (from 20 to 70 percent), and their distribution mapped. The water content is concluded to be determined chiefly by the granular structure of the deposits and, in a lesser degree, by the speed of their formation and by their mineralogical characteristics.

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46390. LISITSYNA, N. K. Arkheologicheskie issledovaniâ v RSFSR v 1953 g. (Akademiâ nauk SSSR Institut istorii material'nof kul'tury. Kratkie soobsheheniâ, 1956. vyp. 61, p. 120-

30.) 7 refs. Text in Russian. *Title* tr.: Archeological investigations in RSFSR in 1953.

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Includes short notes on the Angara (Krasnovarskiy Kray) Expedition headed by A. P. Okladnikov: neolithic, bronze and iron age levels were found in a multilayer site on Lesnoy Ostrov; burials indicate inhabitants of mongoloid origin. P. P. Khoroshikh excavating in the Irkutsk Oblast' found in caves on Ol'khon Island (Lake Baykal) iron age artifacts belonging mainly to the Kurykany (ancestors of the Yakuts), who inhabited Pribaykal region in the sixth to tenth V. V. Narvshkin incenturies A. D. vestigating two sites on delta of Konchalan River, Chukotskiy Poluostrov, excavated one of the two semi-subterranean earth-huts. Copy seen: DLC.

46391. LISITSYNA, N. K. Arkheologicheskie issledovaniâ v RSFSR v 1954 g. (Akademiâ nauk SSSR. Institut istorii material'nol kul'tury. Kratkie soobshcheniâ, 1956. vyp. 66, p. 123–36.) Refs. Text in Russian. Title tr.: Archeological research in the RSFSR in 1954.

Includes (p. 125) mention of continued excavations of stone, bronze and iron age sites on Sosnovyy, Konovalovskiy and other islands in the Angara River by the Angara expedition under A. P. Okladnikov (The Academy of Sciences' Institute of Material Culture, Irkutsk State University, Moscow Archives Institute).

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46392. LISITZKY, GENEVIEVE HEL-LEN, 1899 - Four ways of being human; an introduction to anthropology. Illustrated by C. B. Falls. [New York.] Viking Press, 1956. 303 p. illus.

Account, for general readers, of four diverse cultures: Semang, Maori, Hopi, and (p. 63-125) that of the Polar Eskimos of the Smith Sound region, north-Their discovery by Greenland. Capt. John Ross in 1818 is recounted, and description given of their environment, living quarters, clothes, hunting and weapons, dog team and sledge, religious beliefs, food, social customs, the The family, and the seasonal cycle. journey of some Baffin Island Eskimos to Smith Sound in 1862-1868, their introduction of the bow and arrow and of caribou hunting and revival of the art of kayak-making are discussed.

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46393. LISOVSKIĬ, KAZIMIR. Ūnost' prishla na Enisel. (Ogonēk, Nov. 1956. god 34, no. 46, p. 6-7, illus.) Text in Russian. *Title tr.:* Youth came to the Yenisev.

Sketches first impressions of Komsomol (Communist Youth) girls, formerly weavers, sent to do construction work on the power plant at the town of Skit on the Yenisey River: their living conditions, hardship from the unaccustomed work, dreams of a technical education, etc.

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46394. LISOVSKIĬ, KAZIMIR. Severnee 70–I paralleli. (Ogonëk, Feb. 1956. god 34, no. 9, p. 14–15, illus.) Text in Russian. *Title tr.:* Above the 70th parallel.

Sketch of the life and activities at collective farms of Nganasan (Samoyed) reindeer-breeders and hunters (Kolkhoz Shmidta and Kolkhoz Kalinina) in the Avamskaya Tundra of Taymyr National District: the reindeer range, fox trapping, hunters' delivery of furs at trading post, election of chairman, school, etc. A herd of over 5,000 reindeer is owned by the Shmidt collective.

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46395. LISOVSKIĬ, KAZIMIR, and A. NIKUL'KOV. Shturm Obi. (Sibirskie ogni, Nov.-Dec. 1956. god 35, no. 6, p. 117-20, illus.) Text in Russian. Title tr.: Storm on the Ob'.

Describes the construction of the first Ob' hydro-electric station, near Novosibirsk, and the heroic effort to save the almost completed dam during a storm.

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46396. LISOVSKIĬ, KAZIMIR. Taina mysa Vkhodnogo. (Sibirskie ogni, Sept.— Oct. 1956. god 35, no. 5, p. 131–48, illus.) Text in Russian. *Title tr.:* The mystery of Cape Vkhodnoy.

On his last hunting trip, N. A. Begichev wintered with his party on Cape Vkhodnoy (approx. 74° N. 81° E.) at the entrance to Pyasina Bay; there he died on May 18, 1927, and was buried in the vicinity. Persistent rumors that he was killed by one of his companions, who later married his widow, induced the author to investigate the case. In 1951 he visited Cape Vkhodnoy and found Begichev's grave. An autopsy disclosed no evidence of murder or violence and the authorities came to the conclusion (not shared by the author) that Begichev succumbed to scurvy. The story of the investigation is

recounted at length; the places visited, among them Dudinka, Noril'sk, Taymyr Peninsula, Pyasina River and Cape Vkhodnoy, are described; Begichev's achievements and his fame in the North are noted; and the companions of his last trip, including two natives (Tungus and Samoyed) are characterized.

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LISTER, H., see Hamilton, R. A., and others. British North Greenland Expedition, 1952–4 . . . results. 1956. No. 45412.

46397. LITTLE, C. GORDON, and others. Radio wave propagation in the Arctic. College, Alaska, 1956. 111 l. diagrs., graphs, tables. (Alaska. University. Geophysical Institute. Final report under contract no. AF 19 (604)–1089, covering period April 15, 1954 to April 15, 1956.) Research sponsored by the U. S. Air Force Cambridge Research U. S. Air Force Cambridge Research Center, Air Research and Development Command. AFCRC-TR-56-121.

For study of tropospheric and ionospheric radio propagation, research was undertaken on sweep frequency, ionospheric back scatter, auroral and meteor echoes at frequencies of 50 mc and higher, microwave propagation, prediction of auroral and ionospheric storms, whistlers, mountain scatter and defraction at VHF, ionospheric absorption, and assistance to the Alaska Air Command on problems of radio propagation. Sweep frequency observations of back scatter from auroral ionization were not made because of lack of equipment. Studies of auroral and meteor radar echoes, on the prediction of auroral and ionospheric storms, on whistlers, and on the scattering and defractions of VH waves by mountains are reported in detail.

Continued research is recommended, particularly on sweep frequency, ionospheric back scatter, auroral and meteor echoes, and in the prediction of auroral and ionospheric storms.

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46398. LITTLE, C. GORDON. Radio wave propagation in the Arctic. Interim scientific report no. 1, for period April 15, 1954, to July 15, 1955. AFCRC-TN-55-579. Cambridge, Mass., Air Force Cambridge Research Center, Aug. 15, 1955. 74 l. illus., diagrs., map. (Its: Air Force Research Contract no. AF 19 (604)-1089.) 23 refs.

Alaskan studies are being conducted on

tropospheric and ionospheric modes of propagation in an effort to improve communication systems. An SCR-270 radar was modified for auroral radar research, and two main investigations were made with this equipment. One was to determine the mode of propagation of VHF auroral echoes; the results indicated that a strong aspect sensitivity existed because of the auroral ionization being aligned along the lines of force of the earth's magnetic field. The second investigation showed that the radar echoes are usually closely associated in range and azimuth with the visual aurora, but that the visual brightness of the aurora is not the factor controlling the strengths of the echoes. No echoes were obtained at ranges greater than 106 mc, owing to lack of suitable equipment. Observations conducted on a microwave link showed the absence of significant tropospheric refraction effects. Development was largely concentrated on equipment for a better understanding of the aurora. The equipment consisted of an all-sky camera and a photoelectric photometer. Tape recordings of whistlers are being analysed to determine their frequency dispersion. Three main phases of additional work were conducted dealing with the tropospheric propagation of VHF radio waves, the diffraction and scattering of VHF radio waves by mountains, and the absorption of HF radio waves of the ionsphere.—AD abstract. Microcard available.

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46399. LITTLE, C. GORDON, and others. Review of ionospheric effects at VHF and UHF. (Institute of Radio Engineers. Proceedings, Aug. 1956, v. 44, no. 8, p. 992–1018.) 182 refs. Also pub. as: Alaska, University, Geophysical Institute, Contributions, Ser. B, no. 13. Other authors: W. M. Rayton and R. B. Roof.

Contains a comprehensive summary of known effects except forward scattering of VHF by the ionosphere, but including, among others, radar echoes from aurora and radio noise of auroral origin. The subject of echoes from aurora is subdivided into the following subtopics: relation of radar reflections and visual aurora; aspect sensitivity; frequency dependence; diurnal variation of auroral echo activity; seasonal variation of auroral echo activity; polarization of auroral radar echoes; height of scattering centers responsible for auroral echoes; range distribution of auroral echoes;

range drifts of auroral radar echoes; frequency spectrum of aurorally-scattered radio waves; amplitude distribution of auroral echoes; latitude distribution of auroral echoes; and effective scattering areas of aurora. Radio noise of auroral origin is discussed under general considerations and experimental results. Brief mention is also made of meteor echo observations made at high latitudes effects on the absorption of radio waves by the A list of agencies active in ionosphere. VHF-UHF ionospheric studies is in-Copy seen: DLC. cluded.

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LITTLE, C. GORDON, see also Bowles, K. L., and others. Auroral zone absorption of radio waves . . . 1955. No. 44109.

46400. LITTLE, EDWARD MILTON, 1897—. Physical properties of sea ice measured from an icebreaker. (*In:* Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 117.)

Abstract of paper on mechanical, optical, and electrical properties of sea ice as measured from the U. S. Navy icebreaker Burton Island in Bering Sea, Jan.—Mar. 1953 (no results given). Ice tested was two-three months old.

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46401. LITTLEWOOD, WILLIAM H., and F. HERMANN. The Danish ocean-ographic and fisheries research vessel Dana, and her post-war program. (American Geophysical Union. Transactions, Oct. 1955. v. 36, no. 5, p. 902–906, diagrs., maps.) 14 refs.

A brief history is given of oceanographic research sponsored by the Danish Ministry of Fisheries, and the current and future research program is described. The research vessel currently employed, the Dana III built in 1938 and rebuilt in 1949, is a single screw ship of about 500 tons, powered by a 700-hp. diesel engine, with quarters for a scientific complement of six. Her hydrographic and trawling equipment, laboratory facilities are noted. Work of the 1946-1948 and 1950 cruises is noted; program of 1951-54 is reviewed and hydrographic stations taken each year are mapped. They include the North Sea, the herring area north of the Faeroes, and the West Greenland Current area. Copy seen: DLC.

46402. LITVIAKOV, IVAN IGNAT'E-VICH, and S. M. IAKOVLEV. Dobycha frezernogo torfa ukrupnennymi kolonnami mashin. Moskva, Gos. ėnergeticheskoe izd-vo, 1955. 29 p., illus., tables, charts. Text in Russian. *Title tr.:* Extraction of pre-cut peat by enlarged columns of machines.

Results of four years' experimental work at the Orichi collective of the Kirovsk peat trust are discussed. A new field method of the coordinated extraction of peat with a large number of cutting and collecting machines is described in detail. A graphic method of production control is illustrated with charts and tables.

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LITVINOV, M. A., see Savich, V. P., and others. O...antibiotike iz lishaĭnikov... 1956. No. 47808.

46403. LiŪBARETS, M. Na dreifuūshchel stantsii "SP-5." (Radio, Apr. 1956, no. 4, p. 6-7, illus.) Text in Russian. *Title tr.:* On the drifting station "North Pole-5."

Sketch, by the station's radio-operator, of ten months' activities: setting up camp in April 1955; radio and technical equipment; the diesel-electric station to supply power for lighting, heating (instead of heating with gas), electric winches, etc.; the airplane AN-2, which transferred 88 tons of cargo from landing strip to camp in 240 trips during Oct.—Jan.; the radio link with radio amateurs in various regions of the U. S. S. R. and with the whaling fleet Slava operating in Antarctic. Copy seen: DLC.

LÍUBIMENKO, V. N., see Veselkin, N. V., and others. O vliiânii sveta . . . 1934, No. 48729.

LÍUBIMENKO, V. N., see Veselkin, N. V., and others. Vlifanie sveta na sintez vitamina C . . . 1934. No. 48730.

46404. LÑBIMOVA, E. L. Botanikogeograficheskie issledovanifa fûzhnof chasti pripolfarnogo Urala. (Akademifa nauk SSSR. Institut geografii. Trudy, 1955. vyp. 64, Materialy po fizicheskof geografii SSSR, p. 201–241, illus., diagrs., map.) 70 refs. Text in Russian. *Title* tr.: A plant-geographic exploration of the southern part of the sub-polar Ural.

Contains a description, based in part on the author's investigation, of Northern Ural vegetation in the area 64°-65° N. 59°-61° E. Four geomorphic zones are identified (cf. map): the eastern (Lyapina River) depression, eastern foot-hills, mountainous Ural, and the western foot-hills and plain. The orographic succession

of ten types of vegetation is outlined, viz.: alpine rock vegetation, alpine tundra, small shrub, larch shrub, subalpine meadow, thin forest, spruce-fir forest, spruce-moss forest, boggy forest and sphagnum bog. The geology, stratigraphy, orography, hydrology, climate and soils of the area are sketched; present changes in the vegetation and history of the area's flora are discussed. Numerous photographs illustrate the text.

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LŪBITSKAĀ, A. I., see Lozina-Lozinskil, L. K. and A. I. Lŵbitskafa. Chuvstvitel'nost' ikry . . . 1940. No. 46450.

46405. LIVINGSTON, C. W. Excavations in frozen ground, pt. 1; explosion tests in Keweenaw silt. Wilmette, Ill., U. S. Army. Corps of Engineers, Snow Ice and Permafrost Research Establishment, July 1956. viii, 97, [19] p. illus., diagrs., charts, tables. (SIPRE report 30.)

Contains conclusions and recommendations concerning the feasibility of using explosives for foxholes in frozen ground, methods of placing the charge, mechanics of crater formation and possible future instrumentation and research. The field and laboratory tests performed under sponsorship of SIPRE are described in detail. From the fundamentals disclosed in the analysis of data, it appears possible to correlate blasts in various materials with blasts in frozen ground.

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46406. LIVINGSTON, JOHN A. The long flight back. (Canadian nature, Sept.—Oct. 1956. v. 18, no. 4, p. 113–15, 136–37, 3 illus.) ref.

Popular description of the whooping crane (Grus americana), its physical appearance, breeding grounds in the Northwest Territories, migration south to to the Gulf of Mexico during Oct.—Nov; reasons for decline of crane population during the past century.

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46407. LIZARDI ALBARRÁN, FER-NANDO. Las regiones árticas en la geopolítica y en las relaciones internacionales. México, 1950. 153 p. Thesis, Universidad National Autónoma de México. Text in Spanish. *Title tr.*: The arctic regions in geopolitics and international relations.

Diversity of viewpoints on economic, political, military and juridical questions with respect to the arctic regions and their control, to unoccupied or temporarily occupied territory, is stressed. views are outlined on property rights and control, and on juridical recognition of discovery, occupation, and accession as applied to arctic lands contiguous with continental nations of Canada, Norway. and Russia: the somewhat different position regarding the outlying islands of Greenland and Spitsbergen is noted. The geopolitical concepts derived from the teachings of Mahan, Mackinder, Ratzel are reviewed, and the recent intensification of nationalism is discussed. Differences between geopolitical and juridical points of view on such concepts as arctic, control of open sea, and sectors. are analyzed. The processes of international jurisprudence are preferred to geopolitical developments for determinations on rights or occupance of unoccupied areas. Copy seen: DLC.

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46408. LJUNGNER, ERIK, 1892–1954. East-west balance of the Quaternary ice caps in Patagonia and Scandinavia. (Upsala. Universitet. Mineralogisk-geologiska institut. Bulletin, 1949. v. 33, p. 11–96, 10 illus., 12 diagrs., 17 maps.) 254 refs.

Includes analysis of geomorphic effects of ice sculpture in glacial time on marine and continental slopes of Scandes mountains. Traces of varying directions of ice movement in the lower Arctic of Scandinavia are related to development of cirques, tinds, valleys, fjords and finger lakes, to cyclic elements in landscape features, to differences between maximum Norwegian maritime and Scandinavian continental glacial activity, and to changes in character of atmospheric circulation patterns and in nature of the Gulf Stream.

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46409. LJUNGNER, ERIK, 1892–1954. Urbergsytans form vid fjällranden. Surface form of the crystalline basement at the eastern margin of the Scandes. (Geologiska föreningen, Stockholm. Förhandlingar, 1950. bd. 72, häfte 3, no. 462, p. 269–300, illus., text map, 7 diagrs.) 58 refs. Text in Swedish. Summary in English.

Borings and surface observations along the border of Caledonian folding in northern Sweden provide material on which are postulated the nature of the pre-Cambrian peneplane and post-Cambrian tectonic activity, the nature and extent of the early-Paleozoic geosyncline and its relation to the surrounding area, and flexure, nappe, and fold development in relation to possible land bodies of the time. The observations and interpretations of this study, made just south of the Arctic Circle, are applicable as well to the area to the north. Reference is made to interpretations in the Sarek locality.

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46410. LLANO, GEORGE ALBERT, 1911- New Umbilicariaceae from the Western Hemisphere, with a key to the genera. (Washington Academy of Sciences. Journal, June 1956. v. 46, no. 6, p. 183-85, 12 illus.) 8 refs.

Încludes descriptions of two lichens, Agyrophora scholanderii n. sp. from the Shubelik Mts. (69° N. 145° W.) and Mt. McKinley National Park, Alaska, and Umbilicaria aprina var. halei n. var. from Baffin Island at the head of Clyde Fiord.

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46411. LLOYD, TREVOR, 1906—. The fishing industry of North Norway. Hanover, N. H. Dartmouth College, Jan. 1956. 33 p. 9 text maps, graphs, 20 tables. Mimeographed. (Technical report ONR 438-03-05.) 20 refs.

Reconstruction of the fishing industry of Finnmark and north Troms after World War II has provided opportunities for modernization. Physical conditions governing size of catch in the area are briefly discussed; type and distribution of fish are noted, the herring and cod most important commercially. Considerable seasonal fluctuations occur in the industry, busiest in spring and winter, quietest in summer. Seasonal and areal distribution of fish are reported; also tonnage and value of the catch, labor supply, vessels and equipment, methods of fish processing, distribution of processing plants, marketing. The Vardø fishing industry of east Finnmark (70°22' N. 31°07' E.) is described and a list of fish types (Norwegian, Latin, English names) appended. Copy seen: CaMAI.

46412. LLOYD, TREVOR, 1906— Norwegian collaboration in the economic development of arctic Finland. Hanover, N. H. Dartmouth College, Jan. 1956. 11p. 3 text maps. Mimeographed. (Technical report ONR-438-03-03.) 5 refs.

A brief survey of economic conditions and possibilities in the Lake Inari region (69° N. 28° E.). Loss of the Petsamo area and the Pasvik (Patsjoki) River valley between Lake Inari and the Norwegian border after World War II deprived Finland of access to the arctic coast, of the Kolosjoki nickel mines, and the largest power sites in northern Lapland. construction of the area devastated by the Germans is nearing completion, and severe unemployment occurred in 1954. Exploitation of lumber, the outstanding resource, is handicapped by inadequate communications, the only practical outlet being from Inari village to Porsanger Fiord on the Norwegian coast. A route along the Norwegian side of the Pasvik River, with lumber mill near Kirkenes, Northern Norway, is favored: with a ready market for lumber in northern Norway, employment for local Norwegians and the timber trucks bringing fish, other food, and fuel to Finland on Copu seen: CaMAI. return trips.

46413. LLOYD, TREVOR, 1906—. The Norwegian-Soviet boundary. A study in political geography. (Norsk geografisk tidsskrift 1956. bd. 15, 1955—56, hefte 5–6, nr. 1–2, p. 187–242, 10 illus., 9 maps, diagr.) 65 refs. including 16 maps.

Similar to No. 35936 with minor additions and omissions. Copy seen: DLC.

46414. LLOYD, TREVOR, 1906—. The Norwegian-Soviet boundary in Lapland. (In: International Geographical Union. Eighth General Assembly and Seventeenth International Congress, Washington, D. C., Aug. 8–15, 1952. Proceedings, pub. 1956? p. 533–38.) 11 refs.

Paper similar to No. 35936, with some omissions and without maps or illus.

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46415. LLOYD, TREVOR, 1906—. The reconstruction of North Norway, 1945–1955. Hanover, N. H., Dartmouth College, 1956. 18, 3 p. 10 text maps. Mimeographed. (Technical report ONR-438-03-04.) 3 refs.

Contains a brief survey of the physical geography and population of the Finnmark-northern Troms region, destruction of the area during World War II, needs and handicaps in reconstruction. The program is outlined: housing, transportation, mining, electric power, fishing; it is to be completed about mid-1958. Employment must be found for some 2,000 workers now engaged in the building program. The status of agriculture is still unsatisfactory due to the building

program and industrialization of fishing. Population data are appended.

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46416. LLOYD, TREVOR, 1906 .
Reconstruction of transportation in North Norway. Hanover, N. H., Dartmouth College, 1956. 27 p. 11 text maps, graphs, table. Mimeographed. (Technical report ONR 438-03-06.) 5 refs.

Contains maps and graphs with explanatory text, dealing with present and proposed land and sea routes in north Troms and Finnmark. Of primary importance is a year-round express steamer service to the larger ports, connecting with local steamers. Cargo and passenger traffic throughout the year is graphed and discussed. Surface connections provided by the main northern road from southern Norway to Kirkenes (Route 50) and by the Finnish Arctic Highway (Route 4) are relatively unimportant (except locally) as some sections cannot be kept open in winter. Road expansion since World War II has been slow; need for a good system, building policies, construction, and use: bus routes, snowmobiles, lumber routes, etc., are briefly discussed. Air services north of Tromsø (not discussed) are limited to summer and usually employ seaplanes or flying boats. Copy seen: CaMAI.

**46417.** LOBANOV, A. P. Polmennye pochvy na Dal'nem Severe. (Pochvovedenie, Dec. 1956, no. 12, p. 78-79, tables.) Text in Russian. *Title tr.:* Water-meadow soils in the far North.

Water-meadows in the river valleys of the Okhotsk Sea region are known to have the most fertile soils in the far North. Such soils of Ola District (59°35' N. 151°17' E.) are described, and results from samples analyzed by the Magadan Agricultural Laboratory are given in tabular form and discussed. Utilization of these soils for agriculture is recommended. Copy seen: DLC.

46418. LOBODANOV, N. Avtopoezdna@ vyvozka v Letskom lespromkhoze. (Lesna@ promyshlennost', Jan. 1956. god 34, no. 1, p. 17–19, diagr.) Text in Russian. *Title tr.:* Auto-sled transportation of logs from the Letsk lumber camp.

Describes the train made up of trailers on sleds connected with the pulling truck by draw chains, also by diagonal wire ropes to prevent skidding on ice or snow roads. With this arrangement skidding should not exceed 30 cm. from the center line of the road. Carrying capacity of each trailer is about 12-15 cu. m. on snow roads and 48-50 cu. m. on ice roads at a speed of 40-50 km./hr. The trailers have provision for attachment of wheels.

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LOCKLEY, GORDON J., see Clark, A. H., and G. J. Lockley. Some echinoderms . . . 1942. No. 44383.

46419. LOEBLICH, ALFRED RICHARD, 1914—, and H. TAPPAN. Adercotryma, a new recent foraminiferal genus from the Arctic. (Washington Academy of Sciences. Journal, May 28, 1952. v. 42, no. 5, p. 141-42, 4 illus.) 3 refs.

Contains descriptions of this new genus and A. glomeratum n. sp. obtained by Capt. R. A. Bartlett near Clavering Island, northeast Greenland, and near Humboldt Glacier on the northwest coast.

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46420. LØCHSTØER, JENS, 1889–, Editor. Den norske leidangen. Oslo, Sjøforsvarets overkommando, 1951. 308 p. illus. Text in Norwegian. Title tr.: The Norwegian sea defense.

A thousand years' defense of the Norwegian coast is celebrated in this three-part volume. By ca. 950 A. D. the defense extended to Nordland; a tax was levied from the islands north and west of Scotland for sea defense ca. 1,000 A. D., and ca. 1543 a defense point was built at Vardø, in northeasternmost Norway.

Part one, by G. P. Harbitz, deals with sea defense by communities, its relation to land defense, its equipment and tactics, from its beginnings to the present. The second part, by S. Oppegård, is concerned with the influence of naval defense on Norway's history, with consideration of the presently controlled coast and the temporarily controlled Kola Peninsula. Part three, by Rolf Scheen, deals with fire beacons, used early to signal messages and now as navigation aids. Appended a list of fire-signal locations, several in arctic Norway.

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LÖHR, BERTHOLD, see Bruck, A., and others. Tierexperimentelle... Regulation der Atmung... Hypothermie... 1956. No. 44164.

46421. LÖNNBERG, EINAR, 1865– 1942. Bidrag till järvens historia i Sverige. Stockholm, 1936. 38 p., illus. (Svenska vetenskapsakademien. Skrifter i naturskyddsärenden, nr. 32.) Refs. in text. Text in Swedish. *Title tr.:* Contribution to the history of the wolverine in Sweden.

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This carnivore is found across the northern part of both eastern and western hemispheres. It is now common only in the northern districts of Finland and Norway, and sparse in the Swedish upland along the Norwegian border, and near extermination, in the country generally; it is found only where reindeer are kept and there is food supply. Records of its capture are included from 1830.

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46422. LÖNNBERG, EINAR, 1865–1942. Bidrag till vargens historia i Sverige. Stockholm, 1934. 33 p., illus., table, plate. (Svenska vetenskapsakademien. Skrifter i naturskyddsärenden. 7. 26.) Refs. in text. Text in Swedish. Title tr.: Contribution to the history of the wolf in Sweden.

Includes reference to early incidence of wolves in Lapland, their ravages in connection with reindeer husbandry and the overpasturing of uplands. The northern species is recognized as the same as that found in Finland and Russia, which differs from that of southern Sweden and Norway.

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46423. LÖNNFORS, FRANS. Vesimääränmittaukset Suomessa vuoteen 1936. Helsinki, 1936. 65 p., tables (Finland. Hydrografinen toimisto. Tiedonantoja, no. 8.) Text in Finnish, Swedish, and German. *Title tr.:* Hydrographic measurements in Finland to 1936.

Tabulated records from several hundred observation stations, with geographic coordinates, area of drainage system and its percentage lake-covered, data on height of water and stream flow, etc. Representative figures from the arctic area are included. *Copy seen:* DGS.

46424. LÖNNFORS, FRANS. Vesimääränmittaukset Suomessa v. 1946 loppuun. Helsinki, 1948. 84 p., tables. (Finland. Hydrografinen toimisto. Tiedonantoja, no. 11.) Text in Finnish and Swedish. Summary in English. *Title tr.*: Hydrographic records in Finland to 1946.

A revised edition of the report for 1936, q. v., brought up-to-date for stations listed, but without reference to those no longer belonging to Finland.

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**46425.** LØNØ, ODD. Det blåser. (Polarboken, 1956, p. 161–63.) Text in Norwegian. *Title tr.:* It blows.

Describes experience of two brothers wintering on Deeve Bay, Svalbard in 1950-51, and the fierce winds which they encountered. Their difficulties in securing equipment and keeping a fire are discussed, also their sufferings from breathlessness and cold. The wind is said to be strongest on Svalbard in March and April, and northeast the prevailing direction.

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46426. LÖVE, ÅSKELL, and D. LÖVE. Chromosomes and taxonomy of eastern North American *Polygonum*. (Canadian journal of botany, July 1956. v. 34, no. 4, p. 501-521, 29 illus.) 78 refs.

Contains a key to the eastern North American taxa, cytological observations on the genus, and combined cytological and taxonomic studies of 25 species. The basic number of chromosomes of Polygonum s. str. is x=10. The chromosome numbers within the group range from the diploid number 2n=20 to the octoploid number 2n=80. P. fowleri, reported from Labrador and Southeast Alaska, and P. heterophyllum ssp. boreale, native to northern Canada, Greenland and northern Scandinavia, are included.

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46427. LÖVE, ÅSKELL. Cytotavonomical remarks on the Icelandic *Papaver*. (Nytt magasin for botanikk, 1955, v. 4, p. 5–18.) 53 refs.

Contains data on the morphology, cytology and taxonomy of this plant, a key to Icelandic and Fennoscandian taxa, followed by an annotated list of species (eight), subspecies, etc. Three of the species and three varieties are described as new; five species at least and a few varieties are native to northern Fennoscandia, Kola Peninsula, Greenland, Spitsbergen and arctic Canada.

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46428. LÖVE, DORIS, 1918—, and N. J. FREEDMAN. A plant collection from SW Yukon. (Botaniska notiser, July 16, 1956. v. 109, no. 2, p. 153–211, 19 illus.) 84 refs.

Area in the vicinity of the "Quill Creek camp" investigated by the authors during summer 1953, while working for the Hudson Bay Exploration and Development is described; it lies between 61°24′-61°30′ N. and 139°20′-139°35′

W., on the northeastern front of St. Elias Mts. Geographical, topographical and meteorological data are given (fig. 1-5); followed by an annotated list of 153 species of flowering plants and ferns. Five new species of Papaver are described, of which P. cornwallisensis (Cornwallis Island, Somerset Island, Boothia Isthmus and Ellesmere Island) and P. scammanianum (Fairbanks, Alaska) are outside of the investigated area. Total distribution of Cystopteris dickieana is discussed (p. 161-63, and text map).

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LÖVE, DORIS, 1918—, see also Löve, A., and D. Löve. Chromosomes . . . Polygonum. 1956. No. 46426.

46429. LÖVKVIST, BÖRJE. The Cardamine pratensis complex: outlines of its cytogenetics and taxonomy. Uppsala, A.-B. Lundequist, 1956. 131, xvi p. 16 illus., 16 maps. (Symbolae botanicae upsalienses, v. 14, no. 2.) 102 refs.

Contains results of a combination of field studies, ecological observations, cultivation experiments, chromosome number determinations and genetical investigations, morphological examinations and taxonomic and nomenclatorial studies of C. pratensis s. latissimo. The arctic group consists of C. nymani (p. 98-105, map 3) a circumpolar species, with chromosome number 2n = 64, and 2n = 80. It seems possible that hybrid swarms exist between two different taxa in this group, but there is no definite evidence. Compatibility between members of the temperate and the arctic groups seems to be slight. The complex is divided into three groups: the repent rhizom (C. crassifolia), the arctic, and the temperate group (five species) which is very polymorphous. Copy seen: DLC.

46430. LOEWE, FRITZ PHILIPP, 1895 Die Erforschung der "Inlandeise:" Grönland, Antarktis. (Umschau, Feb. 15, 1956. Jahrg. 56, Heft 4, p. 110–13, illus., map.) 8 refs. Text in German. Title tr: The exploration of the inland ice: Greenland, Antarctica.

Contains summary of the physical and geographical features of the Greenland and Antarctic ieecaps. Brief descriptions are given of the extent and height of the inland ice, ice thickness, effect of ice pressure on the rock substrata, ice economy, and snow drifting.

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46431. LOEWE, FRITZ PHILIPP, 1895— . Ice movement and temperature distribution in glaciers and ice sheets. (Journal of glaciology, Oct. 1956. v. 2, no. 21, p. 772-73.) 2 refs. ov

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Contains comments on work of G. de Q. Robin, (No. 42107) raising questions on heat transport in thick icecaps; also on the heating of lower layers of ice by infiltration and freezing of melt water in crevasses as possible cause of strong temperature lapses at certain stations on the Greenland inland ice. Robin's reply is appended.

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46432. LOEWE, FRITZ PHILIPP, 1895—. Das Klima des grönländischen Inlandeises. (Handbuch der Klimatologie, 1935. Bd. 2, Teil K, p. 67–101, diagr., tables, text map.) 61 refs. Text in German. *Title tr.:* Climate of the Greenland inland ice.

Contains general descriptions of the surface configuration of the Greenland icecap, a brief history of climatological studies with data from the Koch and Wegener Expedition 1912-13 (Borg station), the Wegener Expedition of 1930 (West station and Eismitte), and the British Arctic Air Route Expedition 1930-31 (Icecap station). Atmospheric pressure, sunshine and insolation, air temperature, humidity, fog, cloudiness, precipitation and wind are individually discussed. Theoretical considerations concerning the dynamics of icecap climatology are summarized.

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LOEWE, FRITZ 46433. PHILIPP. 1895- . Über den Firnstoss im grönländischen Inlandeis. (Zeitschrift für Gletscherkunde und Glazialgeologie, 1956. Bd. 3, Heft 2, p. 253-55.) Text in German. Translated by Valda Dreimanis for Geophysics Research Directorate, Air Force Cambridge Research Center, as: Firn tremors in the inland ice of Greenland. Cambridge, Mass., American Meteorological Society, June 1956 (4. p.). Copy at CaMAI.

Contains brief description of tremors in firn observed in the winters of 1930–31 and 1950–51 and in May 1953. All tremors originated in the south and were accompanied by firn setting; one propagated to a distance of 500 km. with an estimated velocity of 300 m./sec. The hypothesis of the internal breakdown of unstable firn layers under the weight of accumulated snow is rejected since it is improbable that such layers would extend

over hundreds of km. The possibility of an earthquake as the cause of the phenomenon is considered unlikely because no earthquakes in either East or Southwest Greenland were recorded at that time.

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46434. LÖWEGREN, GUNNAR, 1881— . Norrlands skogar och skogsindustri. Stockholm, 1945. 63 p. Supplement to Svenska handelsbankens index, Sept. 1945. Text in Swedish. Title tr.: Norrland's forests and forest industry.

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Deals with natural conditions and the variety of forest in northern Sweden; history of the industry; integration of Norrland's river system, transport, and power development. Labor and capital are discussed, also forestry's competition with other forms of land use. Pulp production and export, processing and use of waste are described. Outline is given of the improvement of forest growth, and of working and living conditions among the lumbermen.

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46435. LÖWEGREN, YNGVE. Naturaliekabinett i Sverige under 1700-talet; ett bidrag till zoologiens historia. Uppsala, Almqvist & Wiksell, 1952. 407 p. illus. diagrs. (Lychnos-bibliotek. Studier och källskrifter av lärdomshistoriska samfundet, 13.) 350 refs. Text in Swedish. Title tr.: Natural science collections in Sweden during the eighteenth century; a contribution to the history of zoology.

Study of the character, location, and development of faunal collections in Sweden, including a few from Lapland (p. 52, 62-66). Collections of Lund and Uppsala Universities, the Royal Scientific Society, Royal Academy of Science, and others are dealt with; also Linnaeus' collections, his expedition to Lapland in 1732 (p. 229), his type specimens, etc. Appended are notes on some 350 collectors, including a score or more whose collections from the arctic are preserved in museums. Arctic locations referred to are Lapland, northern Finland, Siberia, the Arctic Ocean, Greenland, and Spitsbergen. Copy seen: DLC.

46436. LOGASHOV, P. Molodof okhotnik. (Okhota i okhotnich'e khozfatstvo, Oct. 1956, no. 10, p. 12, illus.) Text in Russian. *Title tr.:* The young hunter.

Notes successful hunting and trapping of fur animals in Krasnoyarskiy Kray by

Artur Tarkichenok, scion of an old Evenki (Tungus) hunters' family.

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46437. LOGIER, EUGENE B. SHEL-LEY, and G. C. TONER. Check-list of the amphibians and reptiles of Canada and Alaska. Toronto, Aug. 31, 1955. 88 p. maps. (Royal Ontario Museum of Zoology and Paleontology. Contribution, no. 41.)

Contains information on range in Canada and Alaska; locality records; races, etc. For each form listed there is a map of its distribution, except in cases of single-locality records.

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46438. LOGINOV, FEDOR. Let water do the work. (News, a Soviet review of world events. Dec. 16, 1956, no. 24 (131), p. 4-5, illus.)

Mentions hydro-electric power stations (planned and under construction) on the Ob'-Irtysk, Lena and Angara-Yenisey River systems; also, the projected high-voltage transmission line linking Bratsk with Irkutsk.

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46439. LOGSDON, CHARLES E. Diseases of economic crops in Alaska. Fairbanks, June 1956. 16 p. illus, (Alaska. University. Agricultural Extension Service. Bulletin 900.)

Contains general information on plant diseases and their control, followed by accounts of specific diseases occurring in Alaska: their cause, symptoms, development, and control. The diseases of cereals, potatoes, vegetables and berries are considered.

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LOGUNOV, N. M., see Moskva. Vsesofûznafâ sel'skokhoz. vystavka. Pavil'on sobakovodstvo . . . 1956. No. 46867.

46440. LOMAZOV, LEONID. Bilîa morîa Chukots'kogo. (Ukraîna, Oct. 1956. no. 19 (178), p. 26–29, illus.) Text in Ukrainian. *Title tr.:* By the Chukchi Sea.

Tale of an Eskimo bone carver and his adventures; advance of acculturation: national schools, better tools, etc.

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LOMBARDO, THOMAS A., see Radigan, L. R., and others. Myocardial failure . . . experimental hypothermia. 1958. No. 47497.

LOMBARDO, THOMAS A., see also Radigan, L. R., and others. The preven-

tion of ventricular fibrillation . . . hypothermia. 1956. No. 47498.

LOMEN, CARL JOYS, 1880—, see Stefansson, V. Natural cold storage. 1956. No. 48185.

LONGLEY, RICHMOND WILBER-FORCE, 1907—, see Boughner, C. C., and others. Climatic summaries . . . III; frost data. 1956. No. 44103.

LOOMER, E. I., see Whitham, K., and E. I. Loomer. A comparison of magnetic disturbance at Resolute Bay and Baker Lake . . . 1956. No. 48942.

46441. LOPATIN, G. V. Nanosy rek SSSR; obrazovanie i perenos. Moskva. Gos. izd-vo geograficheskof lit-ry, 1952. 366 p. 47 illus., 3 maps, 107 tables (Vsesofuznoe geograficheskoe obschestsvo. Zapiski, nov. seriâ, t. 14.) Text in Russian. Title tr.: River deposits in the U. S. S. R.; formation and propulsion.

Compilation of observational data on erosion, washout and deposits of rivers in the U.S.S. R., including the northern regions. The importance of various factors is analyzed and their effects computed (equations given). Three major subjects are treated: (1) formation of deposits as affected by the volume and speed of water flow, snow cover, and slope: its length, steepness, shape, orientation, etc.; type of surface, vegetation cover, human activities, etc., are also considered. (2) Suspended material: its distribution (vertical and longitudinal), and theoretical formulation of the distribution, especially in bottom layers. (3) Composition of suspended materials, vertical, horizontal and seasonal distribution and modification of the sedimentation, movable deposits and their relation to suspended materials; flood-water deposits and causes for their formation. Maps (3) indicate degree of sedimentation in rivers, the first (p. 256) covering part of northern European Russia and western Siberia. Tabular data are given on characteristics of deposits, mobility of drifts, rate of water flow, average sedimentation, etc. Appendices offer tabular data on seasonal distribution of suspended deposits relative to annual average, and on average annual water flow and sedimentation, for all major rivers in U. S. S. R. Included are the Tsil'ma and Kem', the Ob', Yenisey, Lena systems, the Kolyma, Ayan-Yuryakh, Detrin in Siberia, and the Avacha in Kamchatka. Copy seen: DLC. 46442. LOPATIN, INNOKENTIĬ ALE-KSANDROVICH, 1838–1909. Predvaritel'nyī otchet o geologicheskikh issledovaniākh, proizvedennykh v 1877 godu, po porucheniū Akademii, po beregam Podkamennoī Tunguzki. (Akademiā nauk SSSR. Zapiski, 1878. t. 31, p. 238–43.) Text in Russian. Title tr.: Preliminary report on the geological investigations carried out in 1877 for the Academy on the banks of the Podkamennaya Tunguska River.

Brief account of author's boat trip from Yeniseysk down the Yenisey River and up the Podkamennaya Tunguska to the mouth of its tributary the Chuna River, and back in June-Sept. 1877. Stratigraphic and paleontological observations

of the river banks are noted.

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LORANGE, KARSTEN TANK, 1838–1909, see Helland, A. T. Om botner og saekkedale samt . . . 1875. No. 45501.

LORCK, M. V. L., see Denmark. Meteorologiske Institut. Isforholdene . . . 1953. 1956. No. 44598.

46443. LOSAVIO, G., and N. SEME-NOV. NovyI metod progreva dvigatelel zimol. (Avtomobil'nyI transport, Sept. 1956. god 34, no. 9, p. 13-14, tables, illus.) Text in Russian. *Title tr.*: New method of engine preheating in water.

A preheating method is described for cold starting of GAZ-51 and ZIL-120 automobile engines at temperatures as low as -31° C. Hot water or steam is used with two special pipe connections to the upper drain cock on the engine block. One pipe with funnel is connected for the initial filling up and another for the continuous supply of hot water or steam.

46444. LOTZ, J. R. Lawns and gardens in the Knob Lake area. Knob Lake, Que., Sept. 1956. 15 p. Mimeo-

graphed.

Climate and growing season, frost and wind hazards, soil, selection of garden site, and preparation of the land are explained; recommended varieties of grasses, vegetables, trees and shrubs, herbaceous perennials, annuals and bulbs, are given. Based on literature also on results of an experimental plot at Knob Lake, where writer was attached to the McGill Subarctic Research Laboratory.

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LOUGHEED, W. M., see Gunton, R. W., and others. Changes in cardiac rhythm ... electrocardiogram ... hypothermia ... 1956. No. 45346.

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46445. LOUGHREY, ALAN G. The polar bear and its protection. (Oryx, Aug. 1956. v. 3, no. 5, p. 233-39, front.) 13 refs.

Deals with the feeding, reproduction, hibernation, migration and economic importance of Thalarctos maritimus; based chiefly on observations in northern Canada. One of the largest terrestrial carnivores, it is found in all arctic and many subarctic seas and coastal regions; its North American distribution is given. The increase in demand for polar bear skins is noted, and prohibition of their export from the Northwest Territories is recommended.

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LOUGHREY, ALAN G., see also Banfield, A. W. F., and others. An aerial survey technique . . . big game. 1955. No. 43858.

46446. LOVÁSZY, PETER. Some notes on the insect parasites of *Diprion polytomum* Htg.; Hymen, Tenthredinidae. (Suomen hyönteistieteellinen aikakauskirja, 1939. v. 5, no. 3, p. 225–33, 7 illus.) 8 refs.

Contains data on the parasitism percentage (ichneumonids 72.5 percent, and tachinids 27.5 percent) of the spruce sawfly, D. polytomum, based on the study of dissected specimens collected in Pallastunturi (Kittilä, Lapland) in Aug. 1939; and notes on tachinid maggots (first and second stage) met with in the sample. This sawfly was first discovered in Canada in 1930; in 1938 heavy defoliation by it was estimated at 12,000 sq. miles in Canada and in the United States. In Canada it is practically free of insect parasites; in Europe it shows a considerably higher percentage of parasitism. Copy seen: DLC.

46447. LOVÁSZY, PETER. Zur Kenntnis der Schlupfwespen einiger schädlichen Rindenkäfer. (Suomen hyönteistieteellinen aikakauskirja, 1941. v. 7, no. 3–4, p. 194–204, 6 illus.) 8 refs. Text in German. Title tr.: A contribution to the knowledge of ichneumon flies of some injurious bark beetles.

Contains a list of twelve of these beetles bred by the author, and a systematic annotated list of twelve species of ichneumon flies, the larvae of which are parasites of the larvae of bark beetles, and beneficial to various trees, Picea excelsa, Pinus silvestris and P. murrayana. One of these flies is Allodorus semirugosus on Pissodes harcyniae in Kemi Lappmark. Copy seen: DLC.

LOVE, CUTHBERT M., see Collias, E. E., and others. Eastern North Pacific . . . offshore physical and chemical data . . . 1956. No. 44415.

46448. LOVELL, ALFRED CHARLES BERNARD, 1913— . The International Geophysical Year. (Discovery, Jan. 1956. v. 17, no. 1, p. 11-17, 4 illus.)

Contains a description of the organization and planning of the IGY, 1957– 1958, formulation of a calendar of world days, special world intervals, and world meteorological intervals. Programs of research are noted for meteorology and related subjects, the upper atmosphere and ionosphere, earth's magnetism, cosmic rays, longitudes and latitudes, use of rockets; also the antarctic program.

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46449. LOVELOCK, J. E., and A. U. SMITH. Studies on golden hamsters during cooling to and rewarming from body temperatures below 0° C., 3; biophysical aspects and general discussion. (Royal Society of London. Proceedings, ser. B, 1956. v. 145, no. 920, p. 427-42, illus., tables.) 23 refs.

A biophysical study of animals progressively frozen for 40-60 minutes in baths of -5° C. Distribution of the ice in the body and organs; percentage of water converted into ice and rate of heat loss were studied. Animals with 15 percent or less of body water frozen, recovered completely; with increasing percentage of water frozen the survival rate decreased, and when 55-70 percent of body water froze, heartbeat and breathing returned but not consciousness.

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LOVELOCK, J. E., see also Andjus, R. K., and J. E. Lovelock. Reanimation of rats . . . 0° and 1° C. by microwave diathermy. 1955. No. 43644.

LOVELOCK, J. E., see also Andjus, R. K., and others. Resuscitation . . . hypothermic, supercooled and frozen mammals. 1956. No. 43645.

LOWDEN, ALISON M., see Hollingsworth, D. F., and others. The use of dehydrated foods . . . 1956. No. 45588.

LOWENTHAL, JULIUS, 1917—, see Hutcheon, D. E., and others. Adrenochrome hypothermia . . . 1956. No. 45661.

46450. LOZINA-LOZINSKII. LEV KONSTANTINOVICH, and A. LIUBITSKAIA. Chuvstvitel'nost' ikry foreli, Salmo trutta L. m. fario i okunia, Perca fluviatilis L. k temperature nizhe 0°. (Leningrad. Leningradskii nauchnyi institut imeni P. F. Lesgafta. Izvestifa, 1940. nov. ser., t. 23, p. 339-58, illus., tables.) 32 refs. Text in Russian. Summary in English. Title tr: Sensitivity of trout, Salmo trutta L. m. fario, and perch, Perca fluviatilis L., eggs to temperatures below 0°.

A study of the freezing point of whole or crushed eggs, of overcooling and survival. Freezing point varied slightly according to age, species and between whole and crushed eggs. Overcooling reaches lowest point at the stage of hatching and is most successful when done slowly. Both freezing and overcooling were lethal to the eggs, their survival depending on the stage of development. Copy seen: DLC.

46451. LOZINA-LOZINSKIĬ, LEV KONSTANTINOVICH. Kholodostof-kost' gusenifa lugovogo motyl'ka. (Leningrad. Leningradskiĭ nauchnyĭ instituimeni P. F. Lesgafta. Izvestifa, 1935. nov. ser. t. 19, vyp. 1, p. 121–62, illus., tables.) 28 refs. Text in Russian. Summary in English. *Title tr:* Cold resistance in the larvae of *Loxostege sticticalis* L.

An extensive study of the problem, which showed that resistance of these moth larvae (beet web-worms) to cold depends on their stage of development and the related undercooling capacity. Diapausing larvae withstood cold best and survived undercooling of  $-21^{\circ}$  C. sometimes -27° C. Repeated cooling to below  $-7^{\circ}$  C. caused freezing and death. Diapausing larvae may remain in the undercooled state for long periods, a property which enables them to hibernate, but brief sojourn at temperatures slightly above 0° destroys their undercooling capacity. The latter disappears with the diapause and larvae freeze and die at 1° to 2° C. below zero; they behave similarly also before the diapause.

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46452. LUBBOCK, ALFRED BASIL, 1876-1944. The arctic whalers. Glas-

gow, Brown, Son and Ferguson, 1955. xi, 483 p. 85 illus. on 51 plates (1 fold.), maps on lining-papers. 23 refs.

Reprint, without change of No. 10390.

Copy seen: CaMAI.

46453. LUBNY-GERTSYK, E. A. Planktonnye indikatory techenif. (Akademiâ nauk SSSR. Institut okeanologii, Trudy, 1955. t. 13, p. 67-70, maps.) 7 refs. Text in Russian. Title tr: Plankton indicators of currents.

Contains information on earlier Russian studies made with the aid of this method, followed by outline of author's investigations on the distribution of several representative planktons of the Bering and Okhotsk Sea. From this distribution, the author finds indications of the direction of currents. Copy seen: DLC.

**46454.** LUCAS, C. E. Plankton and basic production. (*In*: Graham, M. Sea fisheries, 1956. p. 80–115, illus. maps.)

Following introductory information on the beginnings and development of plankton research, the author deals with the phytoplankton and basic production, including the effects of temperature; light and darkness; effects of seasons and geographic latitude; warm and cold current. The zooplankton is treated in a similar way including the various environmental, seasonal and geographic factors affecting it. Sampling and estimation, apparatus and methods are outlined.

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**46455.** LUCAS, C. E. Plankton and fisheries biology. (*In:* Graham, M. Sea fisheries, 1956. p. 116–38, illus.)

Contains general information on plankton, its composition, biology, mutual relations of its component forms, etc.; its role as food of fishes, including cod and herring; as food of whales; and potential use as human food. Distribution and supply of nutrients and plankton are considered, North Atlantic and North Pacific areas included.

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LUCAS, C. E., see also International Commission for NW. Atlantic Fisheries. Annual proceedings . . . 1955–56. 1956. No. 45703.

LUCCHINA, GEORGE G., see Chambers, A. H., and G. G. Lucchina. Reversible . . . reduction . . . cold of round window potentials. 1956. No. 44304. 46456. LUCHINETSKIĬ, EVGENIĬ. Angarskie zvēzdy. (Sibirskie ogni, Jan.—Feb. 1956. god 35, no. 1, p. 6–8.) Text in Russian. *Title tr.:* Stars of the Angara.

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Describes Padun narrows on the Angara River, site of the planned Bratsk hydroelectric station; and visualizes the future Angara-fed artificial Siberian Sea with a depth to 100 m. and a capacity of 180 billion cu. m. Copy seen: DLC.

LUCIER, CHARLES, see Donoghue, L., and C. Lucier. The University of Alaska Eskimo music and folklore project. 1954. No. 44648.

LUCOT, M. A., see Spach, C., and others. Effet de la température . . . 1966. No. 48137.

46457. LÜLING, K. H. Fische, lebend eingefroren. (Orion, Nov. 1954. Jahrg. 9, no. 21-22, p. 891.) Text in German. *Title tr.:* Fishes frozen alive.

Discusses the conditions favoring the survival of naturally frozen fishes; also, experimental freezing of cold-blooded animals, including insects; hypothermia, and its use as narcotic.

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46458. LUENSEE, Kapitān. Meereisbeobachtungen vom Flugzeug aus. (Annalen der Hydrographie und maritimen Meteorologie, Mar. 1928. Jahrg. 56, Heft 3, p. 87–89, plate.) Text in German. Title tr.: Aerial sea ice observations.

Describes the usefulness of airplane reconnaissance on the basis of experiences along the German North Sea coast in 1927–28. The characteristics of various ice forms as seen from the air are described and illustrated (plate 11 following p. 112). Ice thickness can be determined with accuracy from a height of 100 m. Patterns in fast-ice cover can be analyzed to determine its state of growth. Drifting ice in the consolidation state can be recognized by its uneven surface. A gray, cloudy spot in the water indicates the formation of frazil ice.

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46459. LUIHN, HANS. Finnmark; en økonomisk analyse. Med forord av Gunnar Bråthen. Oslo, Arbeidsdirektoratet, i kommisjon hos Tiden norsk forlag, 1952. 71 p. 9 maps, diagrs., tables. Text in Norwegian. *Title tr.:* Finnmark, an economic analysis.

Regional planning in Norway was begun in 1946 when rebuilding of devastated sections got under way. northernmost province, Finnmark, examined: natural background, communities of its five regions, population, communications, waterpower, and occupations: agriculture, reindeer raising, forestry, fishing, industry, mining, construction, trade, tourism. The labor market, financial conditions, and the peculiar problems of inner Finnmark, are discussed, with consideration of the most important proposals in the development program. Finnmark, larger than Denmark, with 15 percent of Norway's area, had only two percent of the latter's population in 1950. Population distribution is mapped (migratory Lapps specifically indicated). Ores, industrial minerals, tourist facilities, inland and offshore fishing, water power, cultivated land, and household animals are also mapped. The author, who acted as consultant to the local planning committee, is a member of the national regional planning secretariat in Oslo. His factual style of writing enables presentation of an unusual amount of information. Copy seen: DLC.

LUKASHEV, KONSTANTIN 46460. IGNAT'EVICH, 1906- . Bugroobrazovanie kak profavlenie naprfazhenil v gruntakh v svíazi s vechnoľ merzlotoľ. (Leningrad. Universitet. Uchenye za-Serifa geologo-pochvennopiski, 1936. geograficheskafa, no. 10, vyp. 3, p. 147–58, diagrs., tables.) 16 refs. Text in 58, diagrs., tables.) 16 refs. Title tr.: Mound formation Russian. as a soil-pressure phenomenon in permafrost.

Describes the formation of various mounds due to frost heaving. They are classified according to relief form: those of the far North tundras, of the forest tundras, marshes, and Eastern Siberian marshland, and those of the Far Eastern taigas; hydrostatic pressure and soil structure are considered. Most mounds are centrally depressed and cracked in various directions. The soil characteristics of permafrost are described. Relationships between soil structure, particlesize distribution, water content, density and depth, as well as between the loadcarrying capacity and water content are tabulated.—From SIPRE.

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46461. LUKASHEV, KONSTANTIN IGNAT'EVICH, 1906- . O granulometricheskom sostave gruntov oblasti rasprostraneniâ vechnol merzloty. (Leningrad. Universitet. Uchenye zapiski, 1937. serifa geologo-pochvenno-geograficheskafa, no. 16, vyp. 4 (t. 3), p. 170-84, tables.) 41 refs. Text in Russian. Title tr.: Granulometric composition of

soils in permafrost regions.

The granular characteristics of soils in the permafrost regions of the U. S. S. R. are presented. Data on grain size are tabulated for a representative selection of soil types from areas of permafrost, among them Vorkuta, Igarka and other lower Yenisey and tundra localities. The granular composition of any particular soil in an area of permafrost is the result of a particular combination of mechanical, chemical and biological factors. Chemical and biological factors are important only in the thin active layer. Soils of volcanic origin are subject to the most rapid disintegration.—From SIPRE. Copy seen: DLC.

46462. LUKASHEV, KONSTANTIN IGNAT'EVICH, 1906— . Opolzanie i oplyvanie gruntov v usloviňákh vechnot merzloty. (Leningrad. Universitet. Uchenye zapiski, 1938. seriía geologopochvennykh nauk, no. 26, vyp. 6, p. 6–22, illus., diagrs.) 22 refs. Text in Russian. Title tr.: Soil creep and flow in permafrost.

Contains description of various types of soil creep and flow observed on the slopes, hills, river banks, railroad embankments and other construction works, with photo-illus. Causes of the movements are analyzed for three types of soil. The creep and flow are explained by the unfavorable granularmetric composition of the soil, excessive moisture, and unstable thermal conditions. The ground may also be affected by physico-mechanical processes such as thickness of frozen ground, flexibility of soil between the frozen and thawed condition, by loads, ground slope, etc. Copy seen: DLC.

46463. LUKENBERG, T. S. Iz opyta ėkspluatafsii betonomasosov na stroiteľstve Gor'kovskogo gidrouzla. (Mekhanizafsifa stroiteľstva, Sept. 1956. god 13, no. 9, p. 9–13, illus., diagrs.) Text in Russian. Title tr.: Experience in the use of concrete pumps in construction of the Gor'kiľ dam.

A special installation for continuous pouring of concrete mass in large-scale construction is described in detail. The installation consists of concrete mixers, a large pump, and a set of pipes (in easily disassembled sections) to the pouring site. During the winter period, the mixers and pump are kept in heated sheds and they are supplied with hot water. The temperature of the concrete in the well-insulated pipes is maintained at about 30° C. During severely cold weather, the concrete is poured into special buckets placed in an electrically heated railroad car, and rolled to the site. Pump and pipes are cleaned regularly with boiling water and a special wad of canvas pushed through the pipes by compressed air. The cost per cu. m. of operating with this set-up is slightly higher than that with tower or derrick cranes, but the delivery of concrete is faster. Copy seen: DLC.

LUKICHEVA, A. N., see Akademiß nauk SSSR. Botanicheskif institut. Rastitel'nyf pokrov SSSR. . . . Botanicheskaß karta SSSR. . . . 1956. No. 43520.

4644. LUMIALA, ONNI VEIKKO. Beiträge zur Kenntnis der Verbreitung einiger Arten der Familien Anthribidae und Curculionidae (Col.) in Finnland, nebst einigen biologisch-ökologischen Beobachtungen. (Suomen hyönteistieteellinen aikakauskirja, 1940. v. 6, no. 4, p. 157–60.) Text in German. Title tr.: Contributions to knowledge of the distribution of some species of the families Anthribidae and Curculionidae (Col.) in Finland, with some biological-ecological observations.

Lists 28 species, of which 24 are new to the beetle fauna of their localities; data on habitat and host plants are included. At least eight species are listed in the Kuusamo region and Finnish Lapland.

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46465. LUMSDEN, H. G. Ruff and white pelican at Fort Severn. (Canadian field-naturalist, Oct.-Dec. 1955. v. 69, no. 4, p. 168.)

The ruff pelican, Philomachus pugnas, was shot by Indians on the bank of the Severn River in June 1955; and a white pelican, Pelecanus erythrorhynchos, was found dead by the Severn on June 8, 1955. The mummified head and cleaned radius and ulna were given to the writer.

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46466. LUND, HJALMAR MUNTHE-KAAS, 1913— . Dyreliv året rundt. Aschehoug, Oslo, 1955. 142 p. 25 illus. Text in Norwegian. *Title tr.:* Animal life the year round.

Accounts of animal life at various

seasons with numerous references to occurrence in northern Norway; e. g. cross-bills overwintering (1953–54) on Troms-by, waxwings nesting in Finnmark, spring-tails on snowfields, bats hibernating for eight months annually in Nordland, squid common on the Norwegian arctic coast. Walrus visits since 1900 and historic accounts of bears are cited.

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46467. LUND, HJALMAR MUNTHE-KAAS, 1913— . Gråspurven, Passer domesticus (L.) i Nord-Norge; utbredelseshistorie, utbredelsesmetoder og litt om dens biologi. (Dansk ornithologisk forening. Tidsskrift, Jan. 1956. Årg. 50, hefte 1, p. 67–76.) 16 refs. Text in Norwegian. Summary in English. Title tr.: The house-sparrow Passer domesticus (L.) in northern Norway; its history, methods of dispersal and notes on its life-habits.

These birds spread mainly by means of ships, writer suggests. It is difficult to explain otherwise how this species could have covered the great distances between

towns in north Norway.

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46468. LUND, HJALMAR MUNTHE-KAAS, 1913- . Havbrasen. (Ottar, Tromsø, Feb. 1955. nr. 3, p. 14-15, illus.) Text in Norwegian. *Title tr.:* The sea bream.

A sea bream, now in the Tromsø Museum, was caught in Ulsfjord, northern Norway, in 1953, the first occurrence of this fish in Norwegian arctic waters. A deep sea, warmer water species that frequents shallow water in spawning season, it was carried northward in stormy weather. Copy seen: DLC.

46469. LUND, HJALMAR MUNTHE-KAAS, 1913— . Hubroen, Bubo b. bubo L., ruger ved 69° N. Br. i Norge. (Naturen, 1955. Årg. 79, nr. 17, p. 542–43.) Text in Norwegian. *Title tr.:* The horned owl nests at 69° N. lat. in Norway.

Reports of observations of this owl in Norway had been limited previously to more southerly locations. Its occurrence north of the Arctic Circle in summer is possible because it is one of the day-owls.

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46470. LUND, HJALMAR MUNTHE-KAAS, 1913— . Pingviner nord for polarsirkelen. (Ottar, Tromsø, Dec. 1955. nr. 7, p. 15–17.) Text in Norwegian. Title tr.: Penguins north of the Arctic Circle. Nine king penguins were set free in the Lofotens in 1936, and several gold and spectacled penguins in 1938. Observations of these birds on the northern Norway coast are described. Their habitats are unknown but they are believed to have adjusted to the Northern Hemisphere and survived.

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46471. LUND, KAJ BUDDE. Folkehøjskole i Grønland. (Grønland, Oct. 1956, nr. 10, p. 389–94, illus.) Text in Danish. *Title tr.:* A folk high school in Greenland.

Recounts plans for trying this type of school in Greenland, with details on recommendations submitted to the provincial council in 1956; 20 pupils and a Greenlander as the principal are suggested.

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46472. LUND, KAJ BUDDE. Nogle problemer vedrørende fri handel i Grønland. (Grønland, Jan. 1956, nr. 1, p. 1–12, illus.) Text in Danish. *Title tr.*: Some problems concerning free trade in Greenland.

Discusses free trade versus monopoly: the monopoly law of 1925 is still valid, but trading licenses are given to an increasing number of private individuals. The latter offer great competition, mainly in luxury goods; while the monopolistic Greenland Trading Company keeps prices down on utility goods for social reasons. In consequence, the Company faces a deficit due to low profits and extended supply line to small settlements; private trade faces rising prices, installment buying is a possibility, etc. Restriction in granting licenses is suggested; also introduction of income tax; the question is raised whether the Company ought not to abandon its welfare policy.

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46473. LUNDBAK, ASGER. Det internationale geofysiske år 1957–58. (Grønland, Nov. 1956, nr. 11, p. 428–40, illus., maps.) Text in Danish. *Title tr.:* The International Geophysical Year 1957–58.

Scientific stations in Arctic and Antarctic and their planned studies are shown (cf. maps). Fields to be investigated, their methods and results to date are surveyed: the size and shape of the earth, earth tremors, terrestrial magnetism, ionosphere phenomena (e. g. aurora, cosmic rays, rockets and satellites), meteorology, glaciology and marine re-

search. How these studies will affect Greenland is explained.

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46474. LUNDBAK, ASGER. De internationale polarår 1882–83 og 1932–33. (Grønland, July 1956, nr. 7, p. 241–50, illus., maps, diagr.) Text in Danish. *Title tr.:* The International Polar Years 1882–83 and 1932–33.

Activities of the two organizations are reviewed: arctic stations, nations taking part, the more important leaders, scope of the expeditionary work, etc.

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46475. LUNDBAK, ASGER. Jagten på den nordlige magnetpol. (Grønland, Mar. 1956, nr. 3, p. 113–20, maps.) Text in Danish. *Title tr.:* The hunt for the

north magnetic pole.

Lists some of the expeditions which have investigated the location of the magnetic north pole with dates, names of leaders and results. The first person to reach it was James Clark Ross in 1831. Its position was determined by Amundsen during the  $Gj\phi a$  expedition in 1903–1905 as  $70^{\circ}30'$  N.  $95^{\circ}30'$  W.

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46476. LUNDBECK, JOHANNES. Cod, Arcto-Norwegian stock; German landings. (International Council for the Exploration of the Sea. Annales biologiques, 1954, pub. 1956. v. 11, p. 95, tables.)

An analysis of age and length composition of cod caught during 1954 off the Norwegian arctic coast. Dominant year classes, average catch per fishing day, average size and weight of fish are discussed and compared with preceeding years.

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46477. LUNDBECK, JOHANNES. Haddock, Arcto-Norwegian stock; German landings. (International Council for the Exploration of the Sea. Annales biologiques, 1954, pub. 1956. v. 11, p. 96–97, table.)

Contains information and data on age and length composition of haddock from northwestern Norway and the Barents Sea, landed by German vessels. A very strong 1948 year-class was the cause of increased catches in the northwestern area, while in the Barents Sea this year class is far exceeded by the younger 1950 class.

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LUNDBECK, JOHANNES, see also International Commission for NW. Atlantic Fisheries. Annual proceedings . . . 1955–56. 1956. No. 45703.

46478. LUNDBERG, N., and K. C. NIELSEN. A device for lowering and restoring the body temperature in man by means of circulating air. (Acta chirurgica scandinavica, 1955. v. 109, fasc. 6, p. 483-87, illus.) 20 refs.

Contains description of a device (box) into which patients are placed and cooled or rewarmed by circulating air; the device has been successfully used in 18 major operations. Data on rectal temperatures, pulse and blood pressure during cooling and rewarming are also presented.

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46479. LUNDBLAD, OLOV, 1890—. Studier över insektfaunan i Uppsala universitets naturpark vid Vårdsätra. Stockholm, Almqvist & Wiksell, 1954. 67 p., plates, map. (Svenska vetenskapsakademien. Avhandlingar i naturskyddsärenden, nr. 8.) 39 refs. Text in Swedish. Title tr.: Studies on insect faunas of the Uppsala University Park at Vårdsätra.

Contains information on the history, location and flora of this reservation which extends south of Uppsala. Past entomological studies of the area are reviewed. Insects found in the Park, in 16 orders and some 470 genera, are listed; date and sex of find, substrate, habitat, occurrence, etc., are noted. Geographic distribution in the Scandinavian countries is given.

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46480. LUND-DROSVAD, ANDR. Hvidfiskefangsten ved Prøven. København, Ejnar Munksgaard, 1952. 51 p. 6 illus. by Gitz-Johansen. Text in Danish. *Title tr.*: The catching of small whales at Prøven.

In Greenland, soon after Hans Egede's colonization and the decrease in great whales, the lesser sea mammals came into greater use and new means of capture, other than kayak chase in the open sea, became necessary. Small enclosures of coastal waters, were "fenced" with nets, and passing herds of small whales were driven into such corrals. Qaquq, near Godthaab, and Agpamiut, south of Evighedsfjorden, were well suited to this type of catch. Methods of chase at Prøven in the Upernavik district are described and the annual catch during 1925-1950 is given. The effects are noted of change in time and routes of migrations

of whales and cod. A typical catch is described in detail (p. 24-51).

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46481. LUNDEVALL, CARL FREDRIK. The bird fauna in the Abisko National Park and its surroundings. Stockholm, Almqvist & Wiksell, 1952. 73 p. illus., tables, map. (Svenska vetenskaps-akademien. Avhandlingar i naturskyddsärenden, no. 7). About 100 refs. Text in English. Summary in Swedish.

Contains information on earlier studies and the material for the present investigation; description of the area studied (around Abisko, 68°21' N. 18° 49' E., on the south side of Torneträsk lake), its geology, climate and vegetation. Local habitats and their avifauna, and the arrival times of some species introduce an account (p. 15–64) of over 100 species recorded during the summers of 1945, 1946 and 1950. In a taxonomic order, it includes occurrence of birds and nests; data on migration, eggs and young; plumage; etc.

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46482. LUNDGREN, JOHN. Om fiske på turistfärder. (Svenska turistföreningen, Stockholm. Årsskrift, 1897, p. 285–94, illus.) Text in Swedish. Titte tr: Fishing as a tourist activity.

Salmon, trout, grayling, and char are the good sporting fish in northern Sweden. Trolling and casting from shore or boat are recommended; gear, flies, time of day, likely locations, and outdoor cooking are discussed in detail.

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LUNDGREN, NILS, see Hansson, J. E., and others. Snöskor . . . 1956. No. 45433.

46483. LUNDGREN, SVANTE. Lilla Lule älv. (Svenska turistföreningens tidning, June 1956. Årg. 24, nr. 4, p. 112–14, illus.) Text in Swedish. Title tr: Lilla Lule River.

Protests against plans to regulate the lake and river system northwest of Jokkmokk for electric power development. This unique river valley is described; its banks and land long under cultivation will be destroyed.

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46484. LUNDGREN, SVANTE. Myr; färder i Sjaunja, Sveriges största sumpmarksområde. Stockholm, Nordisk rotogravyr, 1952. 136 p., illus., map. Text in Swedish. *Title tr:* Bog; travel in Sjaunja, Sweden's largest swampland region.

Sjaunja, largest bog complex in Scandinavia, lies between the Lule and Kalix Rivers in northern Sweden, 67°17 N. 19°56′ E. It extends four miles north-south, has a low mountain wall on one side, low forested islands, large open-water areas, and a variety of birds and vegetation. A popular account is given of the immediate region during summer, with 66 excellent photographs of terrain, wildlife, population, etc. Copy seen: DLC.

46485. LUNDGREN, SVANTE. Uppför Puoltjajokk. (Svenska turistföreningen, Stockholm. Arsskrift, 1954, p. 270-85, illus., text map.) Text in Swedish. Title tr: Up along the Puoltjajokk.

The Puoltjajokk (68°20' N. 21°24' E.) a branch of the Lainio, occupies a valley between Lidnatjärro and Kuortavare, two mountain outposts of the treeless tundra well north of Kiruna in northern Sweden. This stream gives access to the location of the Lappish roundup west of The writer's the lake, Puoltjajarve. party with an Evinrude motor boat, spent several days in the valley in September traveling by boat and afoot. The region is described largely as one of glacial deposits, such as the esker which dams the lake. Both evergreen and birch limits are passed within a short distance; the transition from dwarf birch heath to treeless tundra is evident in this location. Copy seen: DGS.

46486. LUNDIN, K. P. Ekspluatatsionnafa vlazhnost' torffanol zalezhi v rabochem sechenii kar'era. (Akademifa navuk BSSR, *Minsk*. Instytut torfa. Trudy, 1953. t. 2, p. 80-113, tables, diagr., graphs.) 5 refs. Text in Russian. *Title tr:* Operational moisture of a peat deposit in the working section of an open pit

in the working section of an open pit. "Operational" moisture is defined as that which remains after partial draining and drying of the peat deposit for working. It is discussed in relation to the natural moisture, and its importance in evaluation of the quality of excavated peat is stressed. The relation of moisture to various zonal conditions (including those under a frozen layer) is formulated and moistures are computed for different peat The data are tabulated and deposits. graphically represented. Consideration was given to the levels of three zones: that of ground water, capillarity and of aeration (reclamation). In evaluation of the operational area, not only absolute moisture is considered but also its changes after aeration. **Copy seen:** DLC.

46487. LUNDMAN, BERTIL. Raser och folkstockar i Baltoskandia, en översikt. Uppsala, 1946. 77 p., 19 text maps, tables. approx. 160 refs. Text in Swedish. *Title tr.:* Races and population stocks in Baltoscandia, a survey.

From writings dealing with racial origins in Baltoscandia, the author has indexed those of greatest importance and with good reference lists; 26 of his own works are included. Main features of the material and its interpretation are summarized. Body, head, eye color, and blood groups indices are mapped by the author, and racial groups regionally identified. Two groups of Lapps are believed to be blends with groups from farther east. South Lapps are a mixture: Mongolian body, Scandinavian blood group, and east European high skull index; north Lapps form a bridge between west European and north Asiatic low skull index group. Copy seen: DLC.

46488. LUNDQVIST, AXEL. Idrætten på Grønland; opgaver og muligheder. (Grønland, July 1956, nr. 7, p. 259-68, illus.) Text in Danish. Title tr.: Sport in Greenland, tasks and possibilities.

Writer and companion made a trip for the Danish Sports Association in 1955, to inspect and establish contacts with West Greenland sports clubs. They visited 16 places in all, and found ball games, especially football, and skiing the most popular sports. Problems noted include training of leaders and the building of sports grounds and gymnasiums. Volley-ball was introduced and plans worked out for inter-Greenland competitions in various sports.

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46489. LUNDQVIST, GÖSTA, 1894— Blocksänkor och några andra frostfenomen. (Geologiska föreningen, Stockholm. Förhandlingar, 1951. bd. 73, häfte 3, no. 466, p. 505–512, illus., textmap, diagrs.) 12 refs. Text in Swedish. Summary in English. Title tr.: Boulderfilled depressions and some other frost phenomena.

Boulder depressions, common in Sweden, appear each to be filled with boulders of uniform size. The boulders are actually of gradually decreasing size in subsurface layers and at the bottom is fine impervious soil. It is believed that frost action has

gradually sorted them by ice heaving of the larger members. Various earlier interpretations of such phenomena require re-examination, as their origin in some other manner may have been used as a basis for farther-reaching scientific conclusions. The map of these depressions in Sweden, includes sites in the arctic region.

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46490. LUNDQVIST, GÖSTA, 1894—. Långspredning av svampsporer. (Geologiska föreningen, Stockholm. Förhandlingar, 1953. bd. 75, häfte 1, no. 472, p. 39–42, text map, table.) Text in Swedish. *Title tr.:* Distant spreading of fungus spores.

In autumn 1952, a great drift of spores of Chrysomyxa voroninii was found in Kebnekaise, the highest mountains of Sweden. It is correlated with the strong infection of the same parasitic fungus on Picea in the forests of Norrland. Spore drift with the wind is found (from meteorological data) to have occurred on Aug. 27-28; the spores must have flown at least 75 km.

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46491. LUNDQVIST, GÖSTA, 1894—. Tillägg till palsfrågan. (Geologiska föreningen, Stockholm. Förhandlingar, 1953. bd. 75, häfte 2, no. 473, p. 149–54, 3 illus.) 4 refs. Text in Swedish. Summary in English. *Title tr.:* An addition to the hummock problem.

On certain palsas in northernmost Sweden are boulders that appear to be in natural position. The inner structure of these boulder palsas is considered, and comparison is made with loam and peat palsas. All are believed the result of the physical processes of frost heaving. Further investigation is suggested for full understanding of their development.

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LUNDQVIST, GÖSTA, 1894—, see also Magnusson, N. H., and others. Sveriges geologi. 1949. No. 46560.

46492. LUNDQVIST, JAN. Berggrunden vid Meraslinka grafitfyndighet. (Geologiska föreningen, Stockholm. Förhandlingar, 1952. bd. 74, häfte 3, no. 470, p. 237–51, 4 illus., 2 text maps, table.) 16 refs. Text in Swedish. Summary in English. *Title tr.*: The bedrock at the Meraslinka graphite deposit.

Reports investigation by means of borings and surface studies of a deposit of amorphous graphite (its highest concentration 36 percent) and of the surrounding bedrock, on the Torne River between Kiruna and Junosuando, northern Sweden. They are described petrographically. A large part of the local bedrock is amphibolitic greenstone which has suffered several intrusions; it is believed to be of Karelidic age. *Copy seen*: DGS.

46493. LUNDQVIST, JAN. En postkarelsk peridotit i urberget norr om Torneträsk. (Geologiska föreningen, Stockholm. Förhandlingar, 1953. bd. 75, häfte 1, no. 472, p. 77–88, 7 illus., 2 text maps, diagr.) 8 refs. Text in Swedish. Summary in English. Title tr.: A post-Karelian peridotite in the Archean bedrock north of Torneträsk.

In the post-Karelian granite and migmatic complex north of this Swedish lake occurs an ultrabasic rock, peridotite, similar to that found in the Norwegian-Swedish border mountains and belonging to the deepest parts of the Caledonian geosyncline. Local faults, overthrusts, and the peridotite are believed to be lower Ordovician or somewhat earlier.

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LUNDQUIST, MAGNUS, Edilor, see Svenska Sällskapet för Antropologi och Geografi. Atlas över Sverige. 1953-in progress. No. 48290.

LUNDSTRÖM, CARL, see Poppius, R. B., and others. Dipteren . . . Sarekgebiet. 1917. No. 47424.

46494. LUNELUND, HARALD VIL-HELM, 1882– . Solstrålning och strålningsklimat. (*In*: Nordenskiöld-samfundet i Finland. Skärgårdsboken, 1948. p. 178–200, tables, diagrs., maps.) 12 refs. Text in Swedish. *Title tr.*: Solar radiation and radiation climate.

Actinometric and photometric methods have been used to register radiation in Helsinki and Sodankylä (67°26' 26°26' E.) and effective radiation amounts figured for other stations in Finland. Clear and overcast conditions are thereby compared in their effect on amount and quality of sunlight. Maps and tables provide comparisons over the country. There is little difference in skerry and inland stations with reference to cooling as higher yearly temperature on skerry coast is compensated by stronger wind there, but climate factor, reckoned on temperature and radiation, is higher in the southwest than elsewhere.

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46495. LUNELUND, HARALD VIL-HELM, 1882- . Synpunkter på Finlands klimat. Helsinki, 1943. 18 p., 8 text maps, graph, 5 tables. (Finska vetenskaps - societeten. Årsbok - Vuosikirja, 1942/43. v. 21, ser. B, no. 6.) Text in Swedish. *Title tr.:* Viewpoints on Finland's climate.

Records from 102 Finnish weather stations, including those in Lappmark, were analyzed to determine effective temperatures of degree days; maps with 5° C. and 10° C. isolines are shown, and comparison is made with northern limits of 11 forest species. Numbers of days above these temperatures and the total degree days are tabulated for the northern limits of eight of these trees. Finally, temperature, direct sunlight, wind, and precipitation are noted in their effects on effective temperatures, and Finland is divided into 22 climatic sections (map) for purposes of plant, animal, and human regional studies. The exact figures used in compilation of this map are not given. but comparisons are made with the similar work of other investigators.

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46496. LUR'E, A. A. Ledokoly. (Voennye znaniâ, Mar. 1956. god 31, no. 3, p. 14–15, illus.) Text in Russian. *Title tr.:* Ice-breakers.

Sketch of ice-breaker development in the U. S. S. R. beginning with Peter the Great; the sixty-year service of the Ermak; an atom-powered ice-breaker, included into the sixth five-year-plan, 1956–1960, etc. Photos show the Ermak, Sadko, Litke, Stalin, and Ob'.

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46497. LUSHBAUGH, CLARENCE CHANCELUM, 1916—, and others. The production of poikilothermia in mice by oxazole quaternary salts. (Journal of pharmacology & experimental therapeutics, Mar. 1956. v. 116, no. 3, p. 366–75, illus. table) 5 refs. Other authors: F. N. Hayes, W. H. Langham, D. G. Ott, and P. Sanders.

Out of 17 oxazolium tosylates synthesized and tested, two stood out as potent inhibitors of thermoregulation in mice: 2-(4-methoxyphenyl)-3-methyl-5-phenyloxazolium tosylate and 2-(1-naphthyl)-3-methyl-5-phenyloxazolium tosylate. The duration and extent of the induced poikilothermic state were directly proportional to the dose, the body temperature being determined by the ambient temperature. It is assumed from in-

direct evidence that the compounds act directly upon the central nervous system.

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LUTZ, H. B., see Seaman, E. A., and H. B. Lutz. A portable heart beat recorder . . . 1956. No. 47866.

LUTZ, H. B., see Seaman, E. A., and others. A telemetry system . . . body temperatures and heart beats . . . human . . . 1956. No. 47867.

46498. LUTZ, HAROLD JOHN, 1900 Damage to paper birch by red squirrels in Alaska. (Journal of forestry, Jan. 1956. v. 54, no. 1, p. 31–33, 3 illus.) 5 refs.

Horizontal girdling of paper birches was observed on Turnagain Arm, Cook Inlet, in June 1952, also near Anchorage, in summer 1954 when stems were collected for study. Nature of the injury is described; teeth marks indicate the red squirrel (Tamiasciurus hudsonicus Erxleben) as cause. This squirrel population varies with occurrence of heavy seed years in spruce (last peak year 1951). Injuries to birch appear to coincide with low seed years when squirrels must resort to other food sources. In one area near Anchorage with an average of 1.625 paper birches per acre, 1,235 (76 percent) were injured or dead. Copy seen: DGS.

46499. LUTZ, HAROLD JOHN, 1900— . Ecological effects of forest fires in the interior of Alaska. Juneau, Oct. 1953. 36 p. 10 illus., text map, tables. (U. S. Forest Service. Alaska Forest Research Center. Station paper, no. 1.)

Summary of No. 46500, a study conducted by the writer from Kenai Peninsula north through the Matanuska, Copper and Tanana River valleys, also west of Wiseman in northern Koyukuk River basin. Geography, climate, forests and history of forest fires are noted. Effect of fires on white and black spruce, paper birch, quaking aspen, and tacamahac poplar is stated; forest succession following fires, effect of fires on soil, hydrological relations, animal populations, and future economic development are dealt with. Copy seen: DGS.

46500. LUTZ, HAROLD JOHN,
1900- . Ecological effects of forest
fires in the interior of Alaska. Washington, D. C., U. S. Govt. Print. Off.,
Mar. 1956. 121 p. illus., text map,
graph, 26 tables. (U. S. Dept. of

Agriculture. Technical bulletin, no. 1133.) 165 refs.

Contains results of investigations during 1949-1952 from Kenai Peninsula north to the Yukon River (primarily along the Glenn, Richardson, Alaska, and Steese Highways), including almost all the area within the commercial range of white spruce. Species composition, size and age relations, density of cover, and successional trends in plant communities were studied (sample plots). Alaskan forests are described and fires reviewed historically. Their effect is discussed with respect to white and black spruce, paper birch, quaking aspen, balsam poplar, shrubs, herbaceous plants, mosses, and lichens. Post-fire succession of plant communities is described in some detail, with lists of trees, shrubs, grasses, forbs, mosses, and lichens in each successiontype. Effect of fire on soils, on hydrological relations, on fur-bearing animals, moose, caribou, and on economic development is also dealt with.

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46501. LUTZ, HAROLD JOHN, 1900 - Effects of fire on soils in northern forests. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 54–55.)

Forest fires partially or wholly remove humus layer resting on the mineral soil body. Soil acidity is reduced, and availability of nitrogen, phosphorus, potassium, and calcium tends to increase. Surface temperatures are higher, and permafrost table moves downward. Thermokarst may result when ice lenses melt. Runoff from steep slopes increases, but erosion is small due to low precipitation, low intensity of rainfall, long frozen period, and rapid re-vegetation.

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LUYET, BASILE JOSEPH, 1897—, see Gehenio, M. P., and B. J. Luyet. Effect . . . cooling and rewarming velocities . . . hemolysis by freezing. 1956. No. 45048.

L'VOV, I P., see Zhitin, N. P., and others. Ploty . . . 1956. No. 49053.

46502. LYMAN, CHARLES PEIRSON, 1912—, and P. O. CHATFIELD. Physiology of hibernation in mammals. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 80–124, illus., tables.) 170 refs.

A comprehensive study and discussion of "deep hibernation," a form of this condition accompanied by "a profound drop in body temperature with a concurrent decrease in metabolism and heart rate." The material is arranged in chronological order, from preparation for, to arousal from, hibernation, and covers problems of fat and food storage; the brown fat; endrocrines; temperature, circulation, metabolism and body chemistry, nervous system and blood during hibernation; growth; conditions during arousal, especially circulation and the cardiovascular system in general; heat production, metabolism, nervous and other activities during awakening. Two general chapters on physiological specializations and theories of hibernation conclude the account. Copy seen: DLC.

LYNCH, JOHN, see Northern affairs bulletin. 1956- in progress. No. 47091.

46503. LYNCH, WILLIAM FRANCIS, 1905— . The effects of moderately low temperatures on the rate of metamorphosis of *Bugula flabellata*. (Physiological zoology, July 1956. v. 29, no. 3, p. 212–26, tables.) 49 refs.

Temperatures of  $+1^{\circ}$  to  $-5^{\circ}$  C. caused ejection of holdfasts by the larvae of these bryozoans. The second stage of metamorphosis, the migration of ciliated epithelium to the basal region is retarded by temperatures of  $0^{\circ}$  and below. Gradual lowering of temperature to  $0^{\circ}$  C. was seemingly less effective in evoking precocious metamorphosis than sudden immersion in cold water.

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**46504.** LYNE, M. D. To the North Pole by *Aries*. (Esso air world, Jan.-Feb. 1956. v. 8, no. 4, p. 104–107, illus., chart.)

An historical account is given of flights of aircraft assigned to the British Royal Air Force College. The first plane, the Aries I, was a standard Lancaster and was the first RAF aircraft to fly over the geographic and magnetic north poles, in May 1945. During the summer of 1955, the Aries IV flew from Bardufoss, Norway, to Ladd Air Force Base, the first British jet aircraft to fly from Europe to America over the North Pole.

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LYNGE, ERIK, 1894—, see Denmark, Grønlands Styrelse. Beretning . . . Laegeekspedition 1947–48. 1949. No. 44594. LYNGE, HANS, see Christensen, H. Eenmands-ekspeditionen i Upernavik norddistrikt. 1956. No. 44353.

46505. LYNGE, LARS. Har privat-flyvning en fremtid i Grønland? (Atuagagdliutit: Grønlandsposten, May 31, 1956. Ukiut 96-iat, nr. 11, p. 5-6.) Text in Danish. *Title tr.*: Is there a future for private flying in Greenland?

Discusses possibilities for a local commercial air service in West Greenland: proposed routes, covering all towns and villages from Nanortalik to Upernavik, costs of operating a de Havilland Beaver estimated on the basis 1,000 hours' flying time per year. Copy seen: DLC.

LYNN, R. B., see McMillan, I. K. R., and others. Hypothermia . . . blood gas and electrolyte changes . . . 1955. No. 46546.

46506. LYON, MARCUS WARD, Jr., and W. H. OSGOOD. Catalogue of the type-specimens of mammals in the United States National Museum, including the Biological Survey collection. Washington, D. C., U. S. Govt. Print. Office, 1909. ix, 325 p. (U. S. National Museum. Bulletin 62.)

Contains a systematic list of about one thousand type species. Name of the species or subspecies is followed by: citation, museum catalogue number, nature of specimen (skin, or scull, or skeleton, etc.), age and sex, date of collection, collector's name, original number and condition of specimen. Many species native to all sections of Alaska and northern Canada, are included.

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LYONS, JOHN BARTHOLOMEW, 1916—, see Stoiber, R. E., and others. The source area and age of ice-island T-3. 1956. No. 48213.

46507. LYSDAHL, EUGEN. Utbredelsen av blåveis, Anemone hepatica, i Norge. (Blyttia, 1945. bd. 3, hefte 1, p. 1–13, text map.) 4 refs. Text in Norwegian. Summary in English. Title tr.: Distribution of Anemone hepatica in Norway.

This calciphilous lowland plant is found usually on south-facing slopes in deciduous and spruce forests. Its northern limit is the Bodø region,  $67^{\circ}16'-17'$  N. (not included in the map). A. hepatica probably immigrated from the east during the post-glacial Würm period, having

had a wider distribution in Norway than at present. Localities are listed.

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46508. LYSIŪK, V. N. Osnovnye kartograficheskie proizvedenia v shestom patiletii. (Geodezia i kartografia, Oct. 1956, no. 8, p. 44–48.) Text in Russian. Title tr.: The main cartographic work

in the sixth five-year plan.

Cartographic publications of 1951–1955 and plans for 1956–1960 are surveyed. Vol. 2 of Morskot allas (pub. 1953, see No. 48515) and further work on v. 3, are noted as well as the climatic and geological atlasses of U. S. S. R. in preparation. Advances in Soviet cartography and need of further development are stressed. Participation of various scientific organizations in the cartographic work is noted.

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46509. MÄRTENSSON, OLLE. Bryophytes of the Torneträsk area, northern Swedish Lappland, I; Hepaticae. Stockholm, Almqvist & Wiksell, 1955. 107 p. (Svenska vetenskapsakademien. Avhandlingar i naturskyddsärenden, no. 12.)

First of a series of three papers, the present one dealing with the liverworts. Some 150 forms are dealt with from the point of view of taxonomy, distribution and habitat. Material available in the various collections is listed with indication of localities in Abisko National Park and around Torneträsk (68°02′ N. 19°06′ E.); nomenclature (synomyms) is also discussed. The bibliography is to be given at the end of the third (general) part.

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46510. MAASS, ALEX. Tillgången på tall- och grankott i Sverige hösten 1905. (Stockholm. Statens skogsförsöksanstalt. Meddelanden, 1906. häfte 3, p. 53–59, 4 text maps.) Text in Swedish. Summary in German. Title tr.: Supply of pine and spruce cones in Sweden in the fall of 1905.

Reports from foresters are utilized as basis for mapping: occurrence of spruce cones, of 2-year-old pine cones in the fall of 1905, of 1-year-old pine cones in the fall of 1904, and of 1-year old pine cones in the fall of 1905. The conditions disclosed are evaluated.

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46511. MAASS, ALEX. Tillgången på tall- och grankott i Sverige hösten 1906. (Stockholm. Statens skogsförsöksanstalt. Meddelanden, 1906. häfte 3, p. 59-63, 4 text maps.) Text in Swedish. Summary in German. *Title tr.:* Supply of pine and spruce cones in Sweden in the fall of 1906.

Maps similar to those for the 1905 (No. 46510) are presented for 1906, and comparisons made. Copy seen: DGS.

46512. MAASS, ALEX. Tillgången på tall- och grankott i Sverige hösten 1907. (Stockholm. Statens skogsförsöksanstalt, Meddelanden, 1907. häfte 4, p. 103–108, 4 text maps.) Text in Swedish. Summary in German. *Title tr.:* Supply of pine and spruce cones in Sweden in the fall of 1907.

Data similar to No. 46510-46511 are summarized and mapped for 1907.

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MAASS, ALFRED ROLAND, 1918—, see Holtkamp, D. E., and others. Effect . . . metabolic antagonists on body-temperature . . . rats. 1956. No. 45594.

46513. McALLISTER, RAYMOND FRANCIS, 1923- . Unusual debriscovered ice cones from Umnak Island. (Journal of glaciology, Mar. 1956. v. 2, no. 19, p. 631-32, 2 illus.) 4 refs.

Contains description and illus. of small volcano-shaped ice cones observed on a glacier on this Aleutian Island (53°11' N. 168°25' W.) under an ash blanket 10-13 cm. deep during the summer of 1948. The cones varied in basal diam. from 50 to 125 cm. with a max. height of 62 cm. The craters studied ranged from 2 to 16 cm. across the top and from 1.3 to 77 cm. and more in depth. The cones probably postdate the ash fall. In discussion following the text (p. 632) W. V. Lewis suggests that the cones resulted from retarded ablation of ice surrounding ashfilled pockets. These pockets may have resulted from drifting hot ash collecting in a previously pitted surface.-from SIPRE.Copy seen: DLC.

46514. McBEE, RICHARD HARDING, 1916—, and L. P. GAUGLER. Identity of thermophilic bacteria isolated from arctic soils and waters. (Journal of bacteriology, Feb. 1956. v. 71, no. 2, p. 186–87, table.)

Contains report on 15 cultures of aerobic, spore-forming bacteria isolated from arctic soils and waters at an incubation temperature of 55° C. They were identified as belonging to three species, none new.

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46515. McBEE, RICHARD HARDING, 1916—, and V. H. McBEE. The incidence of thermophilic bacteria in arctic soils and waters. (Journal of bacteriology, Feb. 1956. v. 71, p. 182–85,

tables.) 12 refs.

An investigation of the incidence of thermophilic, mesophilic and coliform bacteria in various soil and water samples collected near Point Barrow, Alaska. Thermophilic, aerobic baccili were found in 38 of the 59 samples; their presence was not associated with fecal contamination, but seems to depend on accumulated organic material other than peat. This and the study above were aided by the U. S. Office of Naval Research and the Arctic Institute of North America.

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McBEE, VIRGINIA H., see McBee, R. H., and V. H. McBee. The incidence of thermophilic bacteria in arctic soils and waters. 1956. No. 46515.

46516. McBRAYER, BENJAMIN E. Action of hypnotic and allied drugs on the Alaskan native. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub.* 1956, p. 207.)

Three-and-a-half years of anesthesia service with natives from all over the Territory showed that "normal thera-peutic doses" of drugs applied in pre- and post-operative medication caused too numerous and too severe side reactions. It is assumed that the lower metabolic rate and the frequent hypotension of the native require smaller doses of these drugs.

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46517. McCALLUM, KENNETH JAMES, 1918— . Carbon-14 age determinations at the University of Saskatchewan. (Royal Society of Canada. Transactions, 1955. Third ser., v. 49, sec. 4, p. 31–35, table.) 2 refs.

Determinations were made using the original Libby technique of counting solid carbon samples in a screen-wall counter (Arctic Bibliography, No. 30457). Limitations and difficulties are described. A list of dates for 13 samples includes a series of dates for wood from Crooked River, northeast of Goose Bay, Labrador (average age 1910±130 yrs.) and two dates from Southampton Island: one from surface deposits near Coral Harbour (3670±270 years.) the other from terrace of Matthiassen Brook (5600±300 years.).

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46518. McCAMBRIDGE, W. F. The black-headed budworm outbreak in Southeast Alaska. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 109–110.)

The outbreak of Acleris variana Fernald about 1948 and its spread, are reported. Defoliation (throughout Tongass National Forest) and tree kill (none) are discussed. Biological and developmental data are given, parasites of the worm described. Control is by low dosage of DDT.

Copy seen: DGS.

MACCARTHY, ELIZABETH, see Sanders, I. T. Societies around the world. 1956. pec No. 47782.

MACCARTHY, GERALD RALEIGH, 1897—, see Barnes, D. F., and G. R. MacCarthy. Tests of geophysical prospecting . . § 1956. No. 43881.

MACCARTHY, GERALD RALEIGH, 1897—see also Brewer, M. C., and G. R. MacCarthy. Geothermal fluctuations . . . permafrost . . . 1954. No. 44129.

46519. McCLELLAN, CATHARINE. Shamanistic syncretism in southern Yukon. (New York Academy of Sciences. Transactions, Dec. 1956. ser. 2, v. 19, no. 2, p. 130–37.) 13 refs.

Deals with absorption of features of Christianity by shamans among the Tutchone, Tagish, Taku, Athabascan and Tlingit-speaking bands, on the upper Yukon, Pelly, Alsek River area, a population of some 700 in all. The shaman's "call" and training, his technique in precontact (with whites) times are described. Since the advent of Catholic and Protestant missions, he has incorporated a few Christian symbols and practices into the traditional beliefs and performances, and "though crucial parts of Christianity and shamanism overlap at scarcely any point," he continues to satisfy both pagan and Christian natives. This "patterned adaptability," can be discerned in other facets of native life.

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46520. McCLELLAND, MARGARET. The physiology of hypothermia. (Australian and New Zealand journal of surgery, 1956. v. 25, no. 4, p. 310–14, illus.) 12 refs.

Outlines hypothermia and its main physiological aspects; reports cases of human hypothermia produced for surgical purposes, oxygen and cardiovascular changes, blood chemistry, etc.

Copy seen: DNLM.

46521. McCLELLAND, W. R. Nickel in Canada, with a survey of world conditions. Ottawa, Queen's Printer, 1955. 53 p. 3 text maps, diagrs., 2 graphs, 8 tables. (Canada. Dept. of Mines Branch. Memorandum series, no. 130) 43 refs.

Nickel development in Canada is traced, and occurrences reviewed including Lynn Lake (northern Manitoba), Kluane Lake and White River (Yukon), Rankin Inlet and Ferguson Lake (Keewatin District), Simpson Island Group, Great Slave Lake (Mackenzie District). Process used by Sherritt Gorden Mines at Lynn Lake for concentration, extraction, and recovery of nickel and copper is briefly described. Nickel-copper occuron Kol'skiy Poluostrov and rences Noril'sk region, U. S. S. R., and at Bohemia Basin, Yakobi Island, Southeast Alaska are noted (no description).

Copy seen: DGS.

**46522.** McCLURE, JAMES H., and W. L. CATON. Reetal temperatures of term newborn infants with apnea. (Journal of pediatrics, Jan. 1956. v. 48, no. 1, p. 23–27, illus.) 2 refs.

Continuous temperature records of four term babies showed that apnea of the newborn may be associated by a precipitous rise in rectal temperature. The latter fell to normal as soon as respiration began. Copy seen: DLC.

McCONNELL, BURT M., see Explorers Club. Told . . . Explorers Club . . . tales . . . 1931. No. 44832.

McCORD, MALCOLM C., see Hicks, C. H., and others. Electrocardiographic changes . . . hypothermia and circulatory occlusion. 1956. No. 45543.

McCREHAN, RICHARD H., see Stoiber, R. E., and others. The source area and age of ice-island T-3. 1956. No. 48213.

46523. MACDONALD, L. R., and P. C. BREMNER. Permafrost drilling. (Canadian mining journal, Oct. 1956. v. 77, no. 10, p. 92–94, 2 illus.)

To prevent freezing of the drilling fluid in permafrost, ordinary water, heated water, petroleum products including antifreeze, and salt solutions have been used. Advantages and disadvantages of the first three are briefly dealt with; and a solution of calcium chloride, which appears to be the best, is discussed in some detail. Permafrost conditions at Resolute, Cornwallis Island (74°41′ N. 94°55′ W.) and drilling problems are briefly described by P. C. Bremner (based on No. 38981), with conclusion that the use of calcium chloride drilling solution there seems feasible. *Copy seen:* DGS.

MACDONALD, N. J., see Berry, F. A., and others. Arctic weather maps. 1949–50. No. 44007.

46524. MacDONALD, SANDY A. F. Wardair, north of 60°. (Canadian aviation, June 1956. v. 29, no. 6, p. 44–46+, illus.)

Story of the Canadian bush pilot, Max Ward, who developed his one-plane charter air-service at Yellowknife in 1946 into a fleet of four planes and a staff of 13 in ten years. The present company, known as Wardair, performs varied services in the Canadian mainland and islands, including movement of prospecting parties, freighting supplies and equipment into mining camps, wildlife surveys, wolf hunting, musk ox transportation, etc.

Copy seen: DLC.

McDUFFIE, W. C., see Smith, C. N., and others. Insects affecting man and animals . . . 1954. No. 48082.

McEVOY, RICHARD K., see Mavor, G. E., and others. The effectiveness of hypertonic glucose in resuscitation . . . heart . . . 1956. No. 46662.

McEVOY, RICHARD K., see also Mavor, G. E., and others. Potassium and the hypothermic heart. 1956. No. 46663.

McEVOY, RICHARD K., see also Mavor, G. E., and others. Potassium effects in hypothermia . . . 1956. No. 46664.

46525. MACFADYEN, A. The invertebrate fauna of Jan Mayen Island, East Greenland. (Journal of animal ecology, 1954. v. 23, no. 2, p. 261–97, tables, map.) 53 refs.

A study of the soil microfauna (arthropods and nematodes) of which 163 were found new to the Island and 18 new to science. The subject is treated under the aspect of ecological communities and their distribution, general distribution, frequency of forms in time, etc. Over a dozen species of additional invertebrates are also listed. The material was collected by the author during the Oxford

University Expedition to Jan Mayen in 1947. Copy seen: DA.

46526. MACFARLANE, IVAN C. Techniques of road construction over organic terrain. (In: National Research Council of Canada. Associate Committee on Soil and Snow Mechanics. Proceedings of the Eastern Muskeg Research Meeting, February 22, 1956. Ottawa, Oct. 1956. Technical memorandum, no. 42, p. 2–15, cross-sections.) 4 refs.

A review of methods used by various countries and organizations. Muskeg is usually unstable under application of load. Failure may occur by lateral flow (or shear) and by compression (excessive settlement). Three main ways of road construction are: (1) floating the road on the muskeg; (2) removing the unstable material and replacing it with fill; (3) supporting the road on piles. Each method is discussed; also the stabilization of muskeg by sand drains and by chemical means.

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MacFarlane, IVAN C., see also National Research Council of Canada. Associate Committee on Soil & Snow Mechanics. Proceedings . . . Eastern Muskeg . . . Meeting . . . 1956. 1956. No. 46943.

**46527. MACFIE, JOHN.** Bannock. (Beaver, Autumn 1956. Outfit 287, p. 22–23, 6 illus.)

Photographs and brief descriptions of the preparation of bannock, as a staple in the Indian diet. **Copy seen:** DLC.

**46528. MACFIE, JOHN.** Retreat of the sea. (Beaver, Spring 1956. Outfit 286, p. 38–43, 12 illus.)

Contains photographs of the Fort Severn region, northern Ontario (56° N. 87°34′ W.), on the southwest coast of Hudson Bay. In this region, the Bay waters have retreated about 50 miles northward as the land emerged following the close of the last ice age.

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**46529.** *McGILL NEWS.* McGill in the North, 1956. (McGill news, Winter 1956. v. 38, no. 1, p. 28–29, 8 illus., text map.)

Notes 14 expeditions by staff members and students of McGill University, 13 in northern Canada, one in West Greenland; leaders and subject are listed; and photographs show location and activities of each party.

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46530. McGLYNN, J. C. The Northwest Territories, a prospecting paradise. (Canadian mining journal, Apr. 1956. v. 77, no. 4, p. 60-62, text map.)

Contains a survey of mineral possibilities in Keewatin and Mackenzie Districts, based on information from recent prospecting activity and geologic mapping. General geology and structure of area are summarized; metals (gold, uranium, copper, lead and zinc, nickel, lithium) are discussed with information on geology and mineralization of the deposits and on favorable prospecting areas.

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46531. McGOUGH, RAYMOND J. Local environmental factors affecting ice formation in North Star Bugt, Greenland. Washington, U. S. Navy Hydrographic Office, Jan. 1956. vi, 40 p. diagrs., tables, text maps. (Its: Technical report TR-23.) 4 refs.

Contains analysis of meteorological and oceanographic influences on local ice conditions in relation to ice forecasting. Results of detailed ice-growth studies in the fall of 1953 are given. Free water exchange with the fiord at all levels and the negligible fresh-water runoff and annual change in surface water temperature during the open season make North Star Bugt a suitable area for long-range ice prediction techniques based on the thermohaline structure. Observed and computed ice thicknesses were nearly identical, both for the original ice and new ice which formed after the ice was broken up by wind action. Tabulated and graphed data include: mean air and water temperatures; synoptic weather observations; monthly snowfall for 1946-1949; water temperature, salinity, and density profiles; temperature and salinity gradients in ice; ice growth as a function of degree-days of frost in 1948-49 and 1953; and computed and observed ice growth curves. Copy seen: DLC.

McGRATH, HELEN, see Hegsted, D. M., and others. Effect . . . low temperature . . . magnesium requirement. 1956, No. 45490.

46532. MACHATSCHEK, FRITZ, 1876—. Geomorphologie. 5., verb. und erweiterte Aufl. Leipzig, B. G. Teubner, 1952. 203 p. illus., maps. Text in German. *Title tr.:* Geomorphology. 5th rev. and enl. ed.

Includes (in chap. 7, p. 120-40),

account of the glacial forms, land ice, which as glacier, inland icecap, etc., leave morainal material and sculptured forms as evidence of ice movement. Ice action is distinguished on the basis of locational differences, in relation of morainal material to bedrock origin, or by combinations of ice and meltwater deposits, polishing, and stoss and lee forms related to direction of movement. Final glacial-stage landscapes are found on the Fennoscandian and Labrador shields, selective erosion in folded mountains, gouging and damming in lake formations. In chap. 9 (p. 161-72) on climatic morphology, the role of climate in geomorphic development, is discussed in connection with the main world climate patterns, among them the Arctic. In chap. 10 (p. 173-95) on coastal forms and islands, consideration is given to the littoral zone and coastal form developments, distinctions, and classification; the nature of coasts in high latitudes or glaciated sections of lower latitudes is discussed. Copy seen: DLC.

46533. McILWRAITH, THOMAS FOR-SYTH, 1899 - Bibliography of Canadian anthropology for 1954. (Canada. National Museum. Bulletin, 1956. No. 142, Annual report 1954-55, p. 166-80.)

Annual survey of publications formerly published in the Canadian historical review (file in DLC). It was prepared during 1925–1954 by Dr. McIlwraith, and in early years by Diamond Jenness (mostly). The survey prepared in 1955, covering publications of 1954 or late 1953, contains 168 references with brief annotations (10 to 50 words), many of them dealing with the Eskimos and on Indians of subarctic Canada.

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46534. McINTYRE, A. D., and J. H. STEELE. Hydro-biological conditions in the Denmark Strait, May 1954. (International Council for the Exploration of the Sea. Annales biologiques, 1954, pub. 1956. v. 11, p. 20-25, illus., maps.)

Account of investigation carried out in connection with halibut fisheries, on temperatures, salinities and ice limits off Greenland. Currents were determined with the aid of dynamic calculations and samples for chlorophyl and phosphate determinations taken at all stations; dry weight of plankton was determined and the water examined for halibut eggs and larvae.

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McKAY, IAN A., see Drummond, R. N., and others. Investigations . . . boreal forest of Labrador-Ungava. 1956. No. 44662.

46535. MACKAY, JOHN ROSS, 1915—. Deformation by glacier-ice at Nicholson Peninsula, N. W. T., Canada. (Arctic, 1956. v. 9, no. 4, p. 219–28, illus. 2 text maps, profile.) 14 refs.

Two excellent examples of sediments deformed by glacier ice occur on Nicholson Peninsula, Mackenzie District (Liverpool Bay, 69°54' N. 129° W.). ments, topography and structure of the Peninsula are described. Altitudes in the hilly northern half attain 200-300 ft. above sea level, whereas those in the south rarely exceed 30 ft. The hills were formed either by glacier ice moved against a topographic obstruction, resulting in a large push moraine, or by the drag effect of ice moving over weak strata. Deformation could have occurred during the last ice advance or earlier, probably in a single period of deformation, but whether the ground was frozen at the time is not evident. Copy seen: DLC.

46536. MACKAY, JOHN ROSS, 1915—. Mackenzie deltas, a progress report. (Canadian geographer, 1956. no. 7, p. 1–12, 4 text maps, graphs, cross-sections.) 22 refs.

The Mackenzie is the descendant of older rivers that flowed into the Beaufort Sea during interglacial stages of the Pleistocene. These rivers can be recognized by remnants of channels and The modern postdeltaic deposits. glacial delta is sharply delimited by the Richardson Mts. on the west, the Caribou Hills on the east, and by older deltaic or fluvial deposits on the northeast (Richards Island - Tuk Peninsula). Physiography of the ancient-modern delta area is described. Size, shape, and number of lakes vary from south to north. The older terrain differs from the modern in altitude, relative relief, presence of pingos and of oriented lakes (similar to those on the north coast of Alaska).

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46537. MACKAY, JOHN ROSS, 1915—. Notes on oriented lakes of the Liverpool Bay area., Northwest Territories. (Revue canadienne de géographie, Oct.—Dec. 1956. v. 10, no. 4, p. 169-73, 2 illus., 2 text maps.) 7 refs. Summary in French.

In this area (70° N. 129° W.) of Mackenzie District, oriented lakes similar to

those at Pt. Barrow, Alaska, and Old Crow, Yukon, are found in two types. The large lakes are one to two mi. long and one-half to one mi. wide; the small ones occur in groups of five to 50, on average 150 ft. long and 75 ft. wide. Long axes trend north-south, at right angles to prevailing winds as at Pt. Barrow and Old Crow. Writer considers that the cross-wind theory of lake orientation discussed by Livingstone (No. 41089) probably applies in all three areas; that these lakes are being formed by processes now operative. He rejects the Pleistocene wind hypothesis and others. Copy seen: DGS.

46538. MACKAY, JOHN ROSS, 1915—. Oriented lakes of the Liverpool Bay area, N. W. T., Canada. (Association of American Geographers. Annals, June 1956. v. 46, no. 2, p. 261.)

Abstract of paper presented at the 52nd Annual Meeting of the Association, Montreal, Apr. 1–5, 1956. North-south oriented lakes of this area lie in sand and silt, usually within 50 ft. of sea level. Two types exist: large lakes shrinking in size through infilling by polygonal ground; and small lakes increasing in size through coalescence and elongation of ponds developed on polygonal ground. Strong prevailing winds blow across the lakes, Comparisons are made with similar lakes at Pt. Barrow, Alaska, and with the "Carolina bays." Copy seen: DGS.

46539. MACKAY, JOHN ROSS, 1915-, and W. H. MATHEWS. Superficial geology of the Firth River archaeological site, Yukon Territory. (Arctic, 1956. v. 9, no. 3, p. 210-11.)

Authors spent Aug. 18-Sept. 3, 1956, at and near this northern Yukon site being excavated by Dr. R. S. MacNeish, q. v. Geomorphic and stratigraphic problems were studied. Factors hindering stratigraphic interpretation are noted. Relationship of the stratigraphic succession to a late glacial advance along the arctic coastal plain was determined. Further study of clay specimens will be made, also Carbon 14 datings from Dr. MacNeish's specimens.

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46540. McKENZIE, RUSSELL ALDER-SON, 1902— Arctic or polar cod, Boreogadus saida, in Miramichi Bay, New Brunswick. (Copeia, Nov. 27, 1953, no. 4, p. 238–39, table.)

Contains distributional data and a table

of measurements of this circumpolar species, abundant in arctic seas of Asia and North America. It is commonly found in Hudson Bay and around Greenland. The extension of range is apparently due to the very mild winters of 1950-51.

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46541. MACKENZIE, W. J. Aerial radioactivity prospecting. (Mining magazine, May 1956. v. 94, no. 5, p. 261-63, illus.) 2 refs.

Reviews the advantages of helicopters over fixed-wing aircraft for prospecting in northern Canada. The latter cannot fly safely close to the ground, and are costly beyond results obtained. Detection of anomalies by helicopter in northern Saskatchewan and Northwest Territories is noted. The Bell type with "full view cockpit" for general purpose aerial prospecting is recommended.

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46542. McKerrow, C. A. Some recent measurements of atmospheric noise in Canada. Boulder, Col. [1956] 10 p. diagrs. (*In:* U. S. National Bureau of Standards. Symposium on the propagation of V. L. F. radio waves, Jan. 23–25, 1957, paper no. 12.) 7 refs. Prepublication record.

The root-mean-square atmospheric noise amplitude on a frequency of 10 kc. was measured at Ottawa over a period of one year beginning in Oct. 1955, and at Churchill on a frequency of 107 kc. for the period from Dec. 1955-Aug. 1956. A graphical analysis showing the hourly median variations is presented, and the results are compared with earlier data obtained in Canada and estimated values of the U.S. National Bureau of Stand-Systematic daily and seasonal variations occur at both stations with an increase in the noise level during the winter. Copy seen: DLC.

McKINLEY, ASHLEY C., 1896—, see U. S. Office of Naval Operations. The dynamic North. 1956. No. 48636.

MACKRELL, THOMAS N., see Stone, H. H., and others. The effect of lowered body temperature on the cerebral hemodynamics . . . 1956. No. 48216.

46543. MACKWORTH, N. H. Local cold acclimatization in man. (Polar record, Jan. 1956. v. 8, no. 52, p. 13–21, illus.) 9 refs.

Contains account of investigation on impairment of sensation by cold, made

by the tactile two-point discrimination method and the vibration threshold methods. Experiments were carried out at Fort Churchill and under cold room conditions in England. Both sets of experiments indicate considerably less tendency to numbness in cold-acclimatized persons.

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46544. McLAREN, I.A. The biology of the ringed seal (*Phoca hispida* Schreber) in the waters of southwest Baffin Island. Montreal, McGill University [1956?] vii, 142 l. illus., diagrs., graphs, maps, tables, 50 refs. MS thesis, McGill University.

Account of investigation based on material collected or procured in 1953 (as part of the Calanus Expedition) and in 1954; information gathered from the Eskimos, is also included. The following problems were studied; age, by dentinal annuli and other methods; food of inshore and offshore seals; feeding seasons; body condition and dentine deposition; reproductive age in male and female; sexual cycle; breeding season; implantation and early growth of embryo; birth lair; the young; ecology of the reproduction area; movements, dispersal; population samples; factors determining distribution in the Canadian Arctic. Appendices present, in tabular form, data on feeding, body measurements, and reproduction.

Copy seen: CaMM.

MACLEOD, E. G., see Bickley, W. E., and E. G. MacLeod. A synopsis . . . Chrysopidae . . . 1956. No. 44021.

46545. McLOUGHLIN, JOHN, 1784–1857. The financial papers of Dr. John McLoughlin, being the record of his estate and of his proprietory accounts with the North West Company (1811–1821) and the Hudson's Bay Company (1821–1868) edited by Burt Brown Barker. Portland, Oregon Historical Society, 1949. 87 p. fold. facsims.

Reprinted from the Oregon historical quarterly, Mar., Sept. 1944, and Sept. 1949.

Documents are presented in detail and McLoughlin's career briefly reviewed to establish that allegations of unfair treatment from the Hudson's Bay Co. are unfounded in fact. McLoughlin, a physician, engaged in the fur trade with the Northwest Co. from 1803, till its union with Hudson's Bay Co. in 1821, then with the latter as its chief factor till 1845.

Copy seen: DLC.

46546. McMILLAN, I. K. R., and others. Hypothermia; some observations on blood gas and electrolyte changes during surface cooling. (London. Royal College of Surgeons of England. Annals, 1955. v. 16, no. 3, p. 186-94, illus.) 14 refs. Other authors: D. G. Melrose and R. B. Lynn.

Contains account of investigation on dogs aimed at ascertaining the role of blood CO<sub>2</sub> and electrolytes in the etiology of ventricular fibrillation during hypothermia. No surgical procedure was performed and no cardiac drugs were used. No correspondence between CO<sub>2</sub>, pH, and electrolyte changes was observed; none of these changes offered an explanation of the onset of ventricular fibrillation in hypothermia.

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46547. McMURRAY, WILLIAM M. Data collection for the Northern Hemisphere map series. (U.S. Weather Bureau. Monthly weather review, June 1956. v. 84, no. 6, p. 219-34, 16 text maps, graph.) 4 refs.

Contains historical background of the Daily series, synoptic weather maps, Northern Hemisphere, sea-level and 500millibar charts, with synoptic data tabulations, with emphasis on the current series (July 1955, on). Maps include Canada, Alaska, Greenland, Scandinavia and Finland, Svalbard, and U. S. S. R. Methods of data collection are described: North Hemisphere stations and their types of reports are mapped. Improvement in number of stations plotted since 1953, and the effect on historical weather analysis is noted: greatest additional data have come from Greenland, northernmost and west-central U.S.S.R. Copy seen: DGS.

46548. McMURREY, JAMES D., and others. Studies on hypothermia in monkeys, 1; the effect of hypothermia on the prolongation of permissible time of total occlusion of the afferent circulation of the brain. (Surgery, gynecology & obstetries, Jan. 1956. v. 102, no. 1, p. 75–86, illus. tables.) 9 refs. Other authors: W. F. Bernhard, J. A. Taren and E. A. Bering, Jr.

Contains a study of the maximum time for safe vascular occlusion during hypothermia. A single 15-minute period with hypothermia of 26°-23° degrees was well tolerated, but not one at 22° C. Multiple 12-min. occlusion periods were tolerated if adequate time for recovery was allowed

between occlusions. Data on EEG changes, and follow-up electroencephalograms are also presented and discussed. Copy seen: DLC.

MCMURREY, JAMES D., see also Bering, E. A., and others. Studies on hypothermia in monkeys, 2 . . . general physiology . . . 1956. No. 43995.

MCMURREY, JAMES D., see also Bernhard, W. F., and others. Effect of hypothermia . . . peripheral serum levels 17-hydroxycorticoids . . . 1956. No. 44004.

MCNAMARA, A. G. 46549. echoes from the aurora and the use of Doppler techniques. (Engineering journal, Jan. 1956. v. 39, no. 1, p. 31-33,

diagrs., map.)

The zone of maximum frequency of visible auroral frequency extends along an are running from Northern Alaska, across Hudson Bay, and south of Greenland. Doppler radar techniques can be applied to the observation and study of radio reflections from aurora. observations can be used to determine certain characteristics of the aurora, the structure of the upper atmosphere, and the mechanism of radio propagation in the ionosphere. The observed distribution of auroral echoes obtained at Saskatoon are graphed.

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MACNAUGHTON, F. I., see Eason, D. W., and F. I. Macnaughton. Barbiturate coma with hypothermia. 1956. No. 44708.

46550. MACNEISH, RICHARD STOCK-TON, 1918- . Archaeological reconnaissance of the delta of the Mackenzie River and Yukon coast. (Canada. National Museum. Bulletin, 1956. 142, p. 46-81, 6 plates, text map, diagrs.,

table.) 15 refs.

Contains results of investigations in summer 1954. Author's itinerary is outlined, sites found (30) are located and briefly described; also the collected specimens and five types of houses. At least three major cultural complexes appear to be represented in this area: the earliest, site NiVk 1, at Engigsteiak on Firth River, tentatively classified as a component of the Cape Denbigh (Flint Complex or) Phase, the latest, Thule Eskimo, found at many sites. The first complex holds possibility for further information on the Cape Denbigh complex, its possible

ancestral relation to early Eskimo and Dorset, and on the movement of peoples into this area. In a paper summarizing 1955 work at Engigsteiak (No. 46551) author describes two older stages (British Mountain and Flint Creek) at this site. Copy seen: DGS.

46551. MACNEISH, RICHARD STOCK-TON, 1918- . The Engigsteiak site on the Yukon arctic coast. (Alaska. University. Anthropological papers, May 1956. v. 4, no. 2, p. 91-111, illus., table, sketch map.) 20 refs.

Contains a preliminary progress report on the 1955 excavations conducted by the National Museum of Canada at the foot of the British Mountains along the east bank of the Firth River. The finds are described, a tentative sequence of nine culture complexes is established and a comparison with other arctic sites is attempted. Copy seen: DLC.

46552. MACNEISH, RICHARD STOCK-TON, 1918- . Prehistoric invasion. (Beaver, Summer 1956. Outfit 287, p. 46-48, illus., sketch map.)

Popular account of search by National Museum of Canada parties for evidence of early migrations from northeast Asia. In 1954, a four-man party led by the writer discovered a site on Firth River, northern Yukon, and in summer 1955 nine weeks were spent in excavation. Nine different cultures were found, the oldest of which may be as old as any complex found in the New World. The three earliest are represented by stone tools, the next three contained pottery, similar to that found in eastern Canada and northeast Siberia. The three most recent complexes contain prehistoric Eskimo tools and pottery, the oldest

dating from about 2,000 yrs. ago. Copy seen: DLC.

MACNEISH, RICHARD STOCKTON, 1918- , see also Harp, E. Arctic, 1. 1956. No. 45445.

MACNEISH, RICHARD STOCKTON. 1918- , see also Sciacchitano, A. Vestigia di antiche civiltà artiche. 1956. No. 47854.

46553. McNIVEN, J. G., and others. Milling at Port Radium (Canadian mining journal, June 1956. v. 77, no. 6, p. 131-34, 160-61, chart, table.) Other authors: R. L. Behan, D. F. Lillie, and R. J. Tremblay.

At Eldorado's uranium mine, Great

Bear Lake, run of mine ore, after crushing, is treated in a gravity concentration plant where a shipping grade of concentrate is produced. Tailings from this operation are pumped (since 1952) to the leaching plant for retreatment and production of high-grade uranium precipitate; tailings formerly dumped in the bay, are now being recovered in a year-round dredging operation and retreated. The gravity mill plant set-up and processes (with accompanying flow sheet) and the leaching operation are described in some detail. Copy seen: DGS.

MACPHERSON, A. H., see Manning, T. H., and others. The birds of Banks Island. 1956. No. 46609.

MCPHERSON, CATHERINE, see Kline, D., and others. Effect . . . cold environment on labeling . . . rat liver slices. 1956. No. 46003.

46554. McQUEEN, J. D. Effects of cold on the nervous system. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 243-50, table.) 41 refs.

A review on the development of research in this field as from 1862, when Walter cooled rabbits to 20° C. with successful rewarming. The disappearance of nervous responses in animals and man with advancing hypothermia; effects of cold on peripheral nerves, and on the central nervous system are discussed, as the advance of their knowledge developed, in chronological Copy seen: DLC.

McTAGGART, KENNETH CUNNING-HAM, 1919- , see Green, L. H., and K. C. McTaggart. Structural studies . . . Mayo . . . 1956. No. 45267.

46555. McVEAN, D. N. An arctic lichen Siphula ceratites in Scotland. (Nature, Apr. 28, 1956. v. 177, no. 4513, p. 797-98, illus.) ref.

Reports discovery of this circumpolar species on Coulin Forest, Nester Ross (57°32' N. 5°22' W.) a first record from the British Isles. Geographic distribution (northern Fennoscandia, Novaya Zemlya, Aleutian Islands, Bering Strait, etc.), local abundance, altitude, etc., are noted. Copy seen: DLC.

MADDEN, ROBERT, see Daniels, F., and R. Madden. Energy expenditure

. . subarctic bivouac activities. 1958. No. 44542.

MADDEN, RUTH F., see Hiestand, W. A., and others. Relative toxicity . . . 1956. No. 45544.

46556. MADDREN, ALFRED GEDDES. Quaternary history of the Mount St. Elias region, Alaska. (Washington Academy of Sciences. Journal, Jan. 4, 1914, v. 4, no. 1, p. 10-11.)

Notes marked physiographic contrast between regular coast line of the southern slope of Mt. St. Elias, and the deeply fiorded coast of Southeast Alaska and Prince William Sound regions. physiographic evidence indicates that the studied region has not passed through the same episodes of Quaternary development as the remainder of the Pacific continental shores of Alaska. The whole terrain has been uplifted and deformed. Copy seen: DLC.

46557. MAGNUSSON, ADOLF HUGO. 1885- . A monograph of the genus Acarospora. Stockholm, Almqvist & Wiksell, 1929. 400 p. 18 text maps. (K. svenska vetenskapsakademien.

lingar, ser. 3, bd. 7, no. 4.)

Basic work on this crustaceous lichen genus, with (p. 10-44) data on systematics, morphology, anatomy, chemical reaction, ecology and distribution. In the descriptive part (p. 45-378) is a systematic list of 199 species, and another list of dubious and excluded species. Synonyms, keys, Latin diagnoses, English descriptions, critical notes, also data on habitat and distribution are supplied. Some 70 species and varieties, and many forms are described as new. A number of the species are circumpolar in the Northern Hemisphere. The single arctic circumpolar species is Molybdina (p. 349-53, map 1), eleven others are boreal circumpolar species. A supplement (the first), pub. 1930, includes no arctic material. Copy seen: DLC.

ADOLPH 46558. MAGNUSSON, HUGO, 1885- . A second supplement to the monograph of Acarospora with keys. Göteborg, Wettergren & Kerbers förlag, 1956. 34 p. (Göteborgs k. vetenskaps- och vitterhets-samhälle. Handlingar, 6 följden, ser. B, bd. 6, no. 17.) 27 refs.

Contains a key to the Acarospora species described after 1929, including ten native to Greenland; descriptions of 15 new species (non-arctic) and a key to North American species, with A. lapponica from Alaska. Supplement to No. 46557. Copy seen: DLC.

46559. MAGNUSSON, ADOLF HUGO, 1885- . Some new Norwegian lichens. (Blyttia, 1949. bd. 7, nr. 2, p. 29–35). Text in Norwegian.

Includes description of a new species, Caloplaca tromsoeënsis, H. Magn. collected on bare wood at Tromsø.

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46560. MAGNUSSON, NILS HARALD, 1890-, and others. Sveriges geologi. Stockholm, Svenska bokförlaget, 1949. 424 p., illus., plate. Approx. 100 refs. Second edition. Text in Swedish. Other authors: E. Granlund and G. Lundqvist. Title tr: Sweden's geology.

Discussion of bedrock includes reference to the rocks of the Scandinavian shield, Algonkian, and later fossiliferous deposits, with separate chapters on tectonic movements and mineral occurrences. The latter half of the volume is devoted to Quaternary developments, repossession of the surface by plants and animals, and the early traces of man. An explanation of geologic terms clarifies specific terminology used by the Swedes. There is representative treatment of arctic Sweden. Copy seen: DGS.

MAGNUSSON, WARREN GRANT, 1905—, see U. S. Congress. Senate. Committee on Interstate & Foreign Commerce. Program for the rehabilitation of the Alaska salmon fisheries. 1956. No. 48590.

46561. MAGUIRE, BASSETT, 1904—On the application of the name Arnica lessingii (Torrey & Gray) Greene. (Rhodora, Dec. 1950. v. 52, no. 624, p. 281–83.)

Contains discussion of the taxonomic status of A. lessingii and related species. Correct names, proper authorities and pertinent synonymy are given for two: A. louiseana subsp. frigida, native to Alaska, and A. lessingii from Kotzebue Sound.

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MAHONEY, EARLE BARNES, 1909–, see Mavor, G. E., and others. The effectiveness of hypertonic glucose in resuscitation . . . heart . . . 1956. No. 46662.

MAHONEY, EARLE BARNES, 1909—, see also Mavor, G. E., and others. Potassium and the hypothermic heart. 1956. No. 46663.

MAHONEY, EARLE BARNES, 1909—, see also Mavor, G. E., and others. Potassium effects in hypothermia . . . 1956. No. 46664.

MAHONEY, EARLE BARNES, 1909—, see also Mayor, G. E., and others. Procaine amide in hypothermia . . . 1956. No. 46665.

MAÑASOVA, N. A., see Levinson, N. R., and N. A. Mañasova. Material'naî kul'tura russkogo Severa . . . 1953. No. 46332.

46562. MAINS, EDWIN BUTTER-WORTH. The relationship of *Cudoniella* and *Helotium*. (Mycologia, May-June 1956. v. 48, no. 3, p. 410-19, 6 illus.) 34 refs.

Contains a discussion of the systematic positions of these two closely related genera. H. boreale (=C. borealis=C. muscorum) n. comb., is based on a specimen collected by Dr. Polunin in Labrador and Baffin Island.

Copy seen: DA.

46563. MAJOR, HAROLD, 1918—and others. Svalbard. (In: International Geological Congress. 20th, Mexico City, 1956. Lexique stratigraphique international, v. 1, Europe fasc. 1d, p. 19–95, fold. map.) 104 refs. Other authors: W. B. Harland and T. Strand.

An alphabetical listing of formations in the Svalbard group, giving source of original description and name of each formation, its composition, age, type locality, geographic distribution, fossils; literature. Geologic map accompanies text. An extensive bibliography is appended.

\*\*Copy seen: DGS.\*\*

MAJOR, JACK, 1917-, see Crocker, R. L., and J. Major. Soil . . . vegetation . . . Glacier Bay . . . 1955. No. 44493.

MAKAROV, K., see Drobyshevskii, G., and K. Makarov. Osobennosti poletov na vertoletakh . . . 1956. No. 44659.

46564. MAKAROV, N. Po Akutii. (Okhotnich'i prostory, 1956, kniga 6, p. 240–43, illus.) Text in Russian. *Title tr.:* In Yakutia.

Popular sketches of wildlife in the Yana basin: birds, fishes, arctic fox, bear; abundance of wild berries (cowberry, cranberry, raspberry, red and black currants) in the tundra of the lower river. **Copy seen:** DLC.

46565. MAKAROVA, A. R. O vzaimootnosheniñakh mezhdu gazoobmenom i temperaturof kozhi u ovets pri raznykh temperaturakh sredy. (Akademiña nauk SSSR. Institut fiziologii im. I. P. Pavlova. Trudy, 1955. t. 4, p. 192–97, illus., tables.) 11 refs. Text in Russian. Title tr.: Mutual relations between gaseous metabolism and skin temperature in sheep at various environmental temperatures.

Report of investigations on sheep kept at temperatures of 2°, 16°, and 18° C. The distal cuds of the extremities, the nose and forehead showed the lowest, the regions of the trunk the highest temperatures. In shorn animals skin temperatures were lower and metabolism higher; in unshorn, the reverse was the case. At identical ambient temperatures, gaseous turnover was higher in the fall than in the spring. At ambient temperatures of 2° to 10° thermoregulation was chemical; above 10° C., physical.

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MAKATSCH, WOLFGANG, 1906—, see Christiansen, A., and W. Makatsch. Vögel im Norden. 1956. No. 44361.

46566. MAKEDONOV, A. V. Paragenezis ugleľ, vmeshchafúshchikh porod i konkrefsil Vorkutskol svity i metody prognoza uglenosnosti. (Akademiâ nauk SSSR. Laboratorifa geologii uglfa. Trudy, 1956, vyp. 5, Material vtorogo ugol'nogo geologicheskogo soveshchanifa, p. 238–48.) 6 refs. Text in Russian. Title tr.: Paragenesis of coals, wall rocks and concretions of the Vorkuta series and methods of forecasting the coalbearing capacity.

The 1300-2700 m. thick Vorkuta coalbearing series contains lower, middle and upper sub-series, 200-800 m. each, which break up into 30-200 m. "packets" and 8-30 m. cycles. From lithological study begun in 1941, 47 types of rocks and over 110 types of concretions have been found. A cycle usually contains the following stratigraphic elements or zones: coal; near-coal argillites; basin argillite poor in flora remains and concretions; interbedded siltstone; sandstone with sandankerite concretions. The succession of these strata, their interrelation and significance as coal-seam indicators are discussed. Copy seen: DLC. MAKINEN, YRJÖ, see Laine, U., and others. Havaintojo Utsjoen pitäjän länsiosan kasvistosta. 1953. No. 46215.

46567. MAKOVETŠKII, I. V. Pamíātniki narodnogo zodchestva russkogo Severa. Po materialam kompleksnof ékspedifšii In-ta istorii iskusstv Akademii nauk SSSR i Gos. istoricheskogo muzefā. Moskva, Izd-vo Akademii nauk SSSR, 1955. 182 p. 161 illus., incl. plans, sketch map. 35 refs. Text in Russian. Title tr.: Monuments of folk architecture in the Russian North. From materials of the Complex Expedition by the History of Arts Institute of the Academy of Sciences U. S. S. R. and the State Historical Museum.

Preliminary results of investigations in the Mezenskiy, Verkhne-Toemskiy, Yarenskiy and Kargopol'skiy Districts of of Arkhangel'skaya Oblast' and the Zaonezhskiy and Kemskiy Districts of Karelo-Finnish SSR. They represent the third (1952-1953) party's work in a program, initiated by the Institute in 1950, for study and preservation of historical monuments. In a veritable census of olden structures: one- and multi-roomed cottages and one- and two-storied houses, windmills, bath-houses, churches, etc., the architectural styles of 17th to 20th century, decorative wood carvings, floor plans, etc., are described with measurements and illus. Specific problems and regional architectural trends are discussed, e. g. grain storage-houses on piles, elevated platforms for drying of fire-wood, and retaining walls along the Mezen' River known for its spring floods; openwork wood carvings on house fronts and interiors in the Verkhne-Toemskiy District; column-supported porches of dwellings and granaries in the Kargopol'skiy District; "dove-cote" funeral monuments in the Kemskiy District, The timber used in these log and frame buildings (spruce, pine, larch, etc.) is noted, and the northern styles compared with Russian rural architecture of other regions. Copy seen: DLC.

46568. MAKRIDIN, V. Stai belîâka v tundre. (Okhota i okhotnich'e khozîâtstvo, Oct. 1956, no. 10, p. 26, illus.) Text in Russian. *Title tr.:* Flocks of white hare in the tundra.

Aerial observation of wildlife in the tundras in Nenetskiy National District revealed that white hare (*Lepus timidus*), usually solitary in the fall and early winter, appeared in flocks in the second

half of the winter and early spring: up to 500 animals were observed together in Barents and Kara Sea coastal areas and in the Kara River basin; the largest flock seen on April 7, 1955, occupied over 0.5 hectare.

\*\*Copy seen: DLC.\*\*

46569. MAKSIMOV, IGOR' VLADIS-LAVOVICH. Determining the relative volume of the annual flow of Pacific waters into the Arctic Ocean through Bering Strait. [From] K opredelenin pornad-kovol velichiny godovogo stoka vod Tikhogo okeana v Severnyl Ledovityl okean cherez Beringov proliv. Problemy Arktiki, (2); 51–58, 1945. Cambridge, Mass., American Meteorological Society, June 1956. 13 p. sketch map, 2 graphs, table. Mimeographed. 2 refs.

English translation by Valda Dreimanis, of Arctic Bibliography, No. 24126; it was done for the Geophysics Research Directorate, Air Force Cambridge Research Center, under Contract AF19 (604)–1364.

Copy seen: CaMAI.

46570. MAKSIMOV, IGOR' VLADIS-LAVOVICH. Nutatsionna sto sto schafa volna v mirovom okeane i ee geograficheskie sledstviß. (Akademiß nauk SSSR. Izvestiß, seriß geograficheskaß, Jan.—Feb. 1956, no. 1, p. 14–34, 11 diagrs., 5 tables, 5 maps.) 24 refs. Text in Russian. Title tr.: The nutational stationary wave in the world ocean and its geographical consequences.

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Studies of the "polar tide" phenomenon are reviewed on the basis of observational data on 14-month nutational fluctuation Atlantic, Indian and Pacific Oceans. The latitudinal variations of the "polar tide" amplitudes and their vectoral diagrams are analyzed for the North Atlantic in seven-year periods, 1922–1943. Separate and average mean values of the "polar tide" for cotidal months are tabulated (p. 21); a cotidal diagram of the "polar tide" is shown (p. 27) for the Arctic Ocean; the lines for equal nutational anomalies of mean ocean levels for five- and twelve-month periods are shown (p. 28–29). Mean values of periods (years) and relative amplitudes of the periodical nutational fluctuation of general glaciation in different arctic regions are given (map p. 31); annual and 14-month amplitudes in temperature variation in Iceland and Greenland water are tabulated (p. 32). In conclusion a free oscillation of the instantaneous axis of the earth's rotation is discussed in relation to the circumpolar stationary wave of the "polar tide" in the ocean, their meridional and zonal assymetry, variation in ocean water circulation, appearance of nutational fluctuation of glaciation of polar seas and other long term phenomena.

\*\*Copy seen: DLC.\*\*

46571. MAKSIMOV, P. Voprosy dal'neïshego razvitifa rybnoï promyshlennosti. (Planovoe khozfaïstvo, 1956, no. 1, p. 80–87, tables.) Text in Russian. *Title tr.:* Problems of the further development of the fisheries.

Includes data on the Soviet fisheries in the European North and in the Far East. The 1955 catch in the North increased 13-fold and that of the Far East six-fold over 1913, while the catch of the southern seas sharply declined. The fishing fleet of Murmansk had 182 cases of damage in 1955, involving 6,236 vessel-days for repairs. Possibilities for expansion of the fishing industry in Barents, Bering and Okhotsk Sea are briefly discussed.

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46572. MAKSIMOVA, Z. A. Klass Trilobita - trilobity. (*In:* Leningrad. Vsesofûznyî geologicheskiî institut. Polevoï atlas ordovikskoî i siluriiskoî fauny Sibirskoî platformy, 1955. p. 117–35, illus.) Text in Russian. *Title tr.:* Class Trilobita.

A general account of these extinct arthropods, their anatomy and occurrence, followed by descriptions of some 35 forms, 20 of them new. Descriptions include morphology and morphometry, size, etc. They are of wide occurrence through the Siberian platform, North America, Scandinavia, etc.

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46573. MAKSIMOVSKIĬ, NIKOLAĬ PAVLOVICH. Opyt primeneniâ shlakobetona v sbornom stroitel'stve. Moskva, Gos. izd-vo literatury po stroitel'stvu i arkhitekture, 1955. 243 p. illus., tables, graphs. 40 refs. Text in Russian. *Title tr.*: Experience in the use of slag concrete in assembled construction.

Deals with composition, manufacturing processes and assemblying of light-weight concrete blocks and wall panels for use in exterior and interior walls, partitions, face decoration, etc., in industrial and residential buildings. The concrete mixture is prepared with furnace slag in various proportions for heat conservation and frost resistance (p. 54). Technological processes are described for mass-production: chemical composition, me-

chanical and thermal properties, arrangement of processes on the production line, including mixing of masses, casting, drying (with steam or electric heating), storing, transportation, etc. The light-weight frost-resistant concretes include the "slag-gas-concrete" with gas- and heat-forming additives, viz.: calcium chloride, sodium chloride, aluminum powder, (p. 130-33). Shapes and sizes of the blocks or slabs vary from small bricks to prefabricated wall panels with doors, windows, decorative facings and steamheating piping cast within the panels (p. 137-58). Construction details are specified for various degrees of sound resistance (tables 27-28), and for various localities from Baku to Yakutsk, with air temperature range of  $-10^{\circ}$  to  $-50^{\circ}$  C. Copy seen: DLC.

46574. MALAISE, RENÉ EDMOND, 1892– . Växtsteklar: Tenthredinidae. (In: Sjöstedt, Y. Insektfaunan inom Abisko nationalpark II, pub. in Svenska vetenskapsakademien, Skrifter i naturskyddsärenden, 1931, nr. 17, p. 54–68.) Text in Swedish. Title tr.: Sawflies: Tenthredinidae.

Lists more than a hundred species collected in the Abisko region with, usually, note of collector, locality, habitat, distribution. Special northern forms of sawflies are numerous, many of them widespread. Northern habitats favor wide variation in species; identification is difficult and often poor in quality. Many forms collected in northern Sweden and as yet unidentified have not been included.

Copy seen: DLC.

46575. MALAURIE, JEAN NOËL. L'activité géographique française dans les régions polaires, 1940–1955. (In: La Géographie française au milieu du XX° siècle. Paris, J. B. Baillière, 1956. p. 261–80.) Text in French. Title tr.: French geographic activity in the polar regions, 1940–1955.

A survey of French publications on the Arctic and Antarctic, with accompanying notes on field work. Publications of 1940-1947 in physical geography, ethnography and bibliography are listed, followed by those of 1947-1955: results from P.-É. Victor's Expéditions polaires françaises to Greenland (cartographic work, seismic and gravimetric studies, glaciological measurements, meteorological work, studies in physical geography on the west coast), the writer's Mission géographique

française à Thule (1950-1951), work in Canada and Svalbard. Note on polar techniques is added. **Copy seen:** DLC.

46576. MALAURIE, JEAN NOËL. The French Geographical Expedition to Thule, 1950–1951: a preliminary report. (Arctic, 1955, pub. 1956. v. 8, no. 4, p. 202–214, 4 illus., text map, graphs.) 23 refs.

Summarized results of author's expedition to northwest Greenland, July 1950-July 1951. With base at Siorapaluk, 125 mi. north of Thule, winter sledge trips were made to collect demographic. economic and social data on the Eskimos. Author counted 302 Polar Eskimos in ten different settlements. Genealogies were traced. Birth and death rates are discussed; also effects on Eskimo society of contact with white men and possibility of successful integration. In spring, geomorphic expedition was made around Kane Basin. Most significant geomorphic factor appears to be extreme aridity. No intense wind erosion occurs. Glacial erosion was limited, and present frost action is weak. Water erosion in summer produces steep slopes which undergo parallel recession. Present processes seem insufficient to account for present landscape. Copy seen: DLC.

46577. MALAURIE, JEAN NOËL. The last kings of Thule; a year among the Polar Eskimos of Greenland. Translated by Gwendolen Freeman. With a pref. by G. de Poncins. New York, Crowell, 1956. 295 p. illus.

American edition of No. 41230.

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46578. MALAURIE, JEAN NOËL, and S. PIMIENTA-FRENEX. Sur les lamellibranches et des foraminifères quaternaires récoltés en Terre d'Inglefield, Groenland, côte NW. (Société géologique de France. Comptes rendus, 1953, no. 10, p. 159-62.) 9 refs. Text in French. Title tr.: On the Quaternary Lamellibranchiata and Foraminifera collected in Inglefield Land, Greenland, NW coast.

Report on fossils collected by Malaurie in Force Bay (Kane Basin, approx. 78°36′ N. 72° W.) in 1950–1951 and determined in the laboratory by the junior author and M. P. Marie. Four species are described, five others mentioned, with comment on habitat and note of levels at which some of the same species are found in the Disko Bay region.

Copy seen: CaMAI.

MALAURIE, JEAN NOËL, see also Bibliographie géographique internationale. 1956. No. 44020.

MALETTE, W. G., see Eiseman, B., and others. Prolonged hypothermia...pneu-mococcal peritonitis. 1956. No. 44749.

46579. MALEV, P. I. Opyt raboty po sozdaniû karty lesov SSSR masshtaba 1:2,500,000. (Geodeziâ i kartografiâ, May 1956, no. 3, p. 57-61.) Text in Russian. *Title tr.:* Preparation of the forest map of the U. S. S. R. in scale 1:2,500,000.

Outlines history of compiling the 32sheet map published in 1956; technicalities and sources are discussed, earlier maps referring to the northern areas are listed. Cf. No. 48512.

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MAL'GINA, E. A. Opyt 46580. sopostavlenia rasprostranenia pyl'tsy nekotorykh drevesnykh porod s ikh arealami v predelakh evropeľskoľ chasti (Akademiia nauk SSSR. Institut geografii. Trudy, 1950. vyp. 46. Materialy po geomorfologii i paleogeografii SSSR; raboty po sporovo-pyl'tsevomu analizu 3, p. 256-70, tables, maps.) 24 refs. Text in Russian. Title tr: A tentative comparison of the pollen distribution of several tree species and their area of occurrence in the European part of the U.S.S.R.

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Results of an investigation carried out by the Laboratory for Spore-Pollen Analysis of the Institute of Geography of the Academy of Sciences. Ten tree species were studied: pollen of spruce (Picea excelsa Link), pine (Pinus silvestris L.), birch (Betula alba L.), alder (Alnus glutinosa Gaertn.), oak (Quercus robur L.), linden (Tilia cordata Mill.), elm (Ulmus L.) and hornbeam (Carpinus betulus L.). Quantitative data are given on their pollen found in the upper soils within, also outside their area, including arctic regions (cf. text maps); these data are compared and discussed. Pollen of pine proved the most volatile; while that of oak, linden, elm and hornbeam appear beyond their tree lines only in negligible Copy seen: DLC. quantity.

MALINOVSKIĬ, A., see Pereleshin, S. D. Osnovnye voprosy okhotnich'ego khozíaĭstva . . . . 1956. No. 47306.

46581. MALLOCH, JOHN RUSSELL, 1875- . The genus Aspistes Meigen in North America; Diptera, Scatopsidae. (Entomological news, Dec. 1920, v. 31, no. 10, p. 275-76.)

Contains description of two species, one new and the other, A. analis, recorded in Iditarod and Beaver Mts., Alaska. Copy seen: DA.

46582. MALM, SVEN. Kraftverksbygge 1950. (Svenska turistföreningen, Stockholm. Årsskrift, 1951, p. 209–229, 16 illus., diagr.) Text in Swedish.

Title tr: Power plant construction 1950. Swedish power stations are growing in number; in Lapland, Porjus is the best known, and Harspränget the most recent, though planned before 1920. Plans and construction, production, labor, and the local settlement are discussed, with consideration of Swedish power potential and needs.

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MALMEJAC, C., see Malmejac, J., and others. Influence de l'hypothermie . . . 1956. No. 46587.

MALMEJAC, C., see also Malmejac, J., and others. Sur l'activité nerveuse supérieure après hypothermie . . . 1956. No. 46590.

46583. MALMEJAC, JEAN, 1905— and others. Action de l' "hypothermie provoquée" sur l'activité médullosurrénale. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 5, p. 974–77.) 10 refs. Text in French. Other authors: G. Neverre and M. Montero. Title tr: Effect of "induced hypothermia" on adreno-medullary activity.

A review and discussion of the senior author's method and experiments of inducing hypothermia by direct cooling of the adrenal. A parallelism with vasomotor reactions is pointed out.

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46584. MALMEJAC, JEAN, 1905—, and P. PLANE. Équilbre cardio-vasculaire en "hypothermie provoquée" et adrénaline. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 5, p. 978–80, illus.) 7 refs. Text in French. Title tr: Cardio-vascular equilibrium during "induced hypothermia" and adrenaline.

L-epinephrine given intravenously to hypothermic dogs and monkeys showed beneficial influence in cases of strong bradycardia; it helps to reestablish a slight sinus rhythm, sufficient to maintain an arterial pressure of 4-5 cm. Hg. and aids the process of rewarming.

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46585. MALMEJAC, JEAN, 1905—. Incidences physio-pathologiques cardiaques et nerveuses de l'"hypothermie provoquée." (Académie de Médecine, Paris. Bulletin, 1956. t. 140, no. 17–18, p. 311–14.) 10 refs. Text in French. Title tr: Physio-pathological, cardiac and nervous incidents during "induced hypothermia."

Contains a review of various kinds of hypothermia as produced by the author by a variety of methods; the cardiac and nervous occurrences and complications produced by each method are discussed and methods of preventing them, offered. Most cases concerned hypothermia below some 20° C.

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46586. MALMEJAC, JEAN, 1905—, and others. Influence de l'hypothermie encéphalique sur la pression artérielle et sa regulation. (Journal de physiologie, 1956. t. 48, no. 3, p. 628–32, illus.) 22 refs. Text in French. Other authors: G. Neverre, M. Montero, and R. Fredenucci. Title tr: Influence of encaphalic hypothermia on arterial pressure and its regulation.

Account of observations on dogs with encephalic hypothermia achieved by cooling the blood of the carotid and anterior spinal arteries. Changes in arterial pressure are followed both in the brain and in the body during successive stages of cooling and rewarming. Below 22° C. the central mechanism regulating arterial pressure was suspended; but a considerable vascular tonus remained.

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46587. MALMEJAC, JEAN, 1905—, and others. Influence de l'hypothermie sur la transmission synaptique ganglionaire. (Journal de physiologie, 1956. t. 48, no. 3, p. 624–27, illus.) 9 refs. Text in French. Other authors: G. Neverre and C. Malmejac. Title tr.: Influence of hypothermia on synaptic ganglionic transmission.

Account of experiments with dogs made hypothermic and rewarmed by treating the blood. At about 30° arrest of synaptic transmission was noticed and became quite pronounced at 23–24° C. Recovery upon rewarming showed a distinctive timelag. *Copy seen:* DNLM.

46588. MALMEJAC, JEAN, 1905-, and others. Résistance des centres ner-

veux supérieurs à l'hypothermie; influence de l'adrénaline. (Académie des Sciences, Paris. Comptes rendus, 1956. t. 242, no. 23, p. 2764-67, illus.) 6 refs. Text in French. Other authors: P. Plane and É. Bogaert. Title tr: Resistance of the higher nervous centers to hypothermia; influence of adrenaline.

Account of experiments on monkeys and dogs made hypothermic to 17°-18° C. and below. In the latter case continuous intravenous administration of low doses of 1-epinephrine had a beneficial effect on cases of cardiac complications and also acted upon the central nervous system assuring quick recuperation upon rewarming and restoration of central nervous activities. Copy seen: DNLM.

46589. MALMEJAC, JEAN, 1905- , and others. Sur l'activité des centres nerveux vasomoteurs et adrénalino-sécréteurs en hypothermie. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 2, p. 378-82, illus.) 16 refs. Text in French. Other authors: G. Neverre and M. Montero. Title tr.: The activity of the nervous-vasomotor and adrenalin-secretory centers during hypothermia.

Account of an investigation of the activity of nerve centers (of the dog) regulating arterial pressure during hypothermia of the head effected by extracorporeal cooling of the head's circulation. Changes during cooling down to 19° C., and during rewarming were studied. Comparisons with conditions under general hypothermia are made and the effect of adrenalin secretion discussed.

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46590. MALMEJAC, JEAN, 1905—, and others. Sur l'activité nerveuse supérieure après hypothermie provoquée; étude chez le chien à l'aide du réflexe salivaire conditionné. (Journal de physiologie, 1956. t. 48, no. 3, p. 632–34.) 12 refs. Text in French. Other authors: P. Plane and C. Malmejac. Title tr.: Higher nervous activity after induced hypothermia; study of the dog with the aid of conditioned salivary reflexes.

Conditioned dogs were made hypothermic to 24° and 17° C, then rewarmed, returned to normal environment and their conditioned salivary reflexes studied for 12–15 hrs. Down to 22° body temperature, there was no after-effect on salivary secretion. Below that temperature the conditioned reflex is completely extinguished or strongly diminished. The

condition is reversible and, after a hypothermia of 18° C., turns normal in 2-3 days.

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MALMEJAC, JEAN, 1905and P. PLANE. Sur la résistance du système nerveux au froid et à l'ischémie chez le chien refroidi à 18°; possibilités d'interventions intracardiaques rhythme idio-ventriculaire par hypothermie provoquée. (Académie nationale de médecine, Paris. Bulletin, 1956. t. 140, no. 21-23, p. 416-18.) 9 refs. Text Title tr.: Resistance of the in French. nervous system to cold and ischemia in the dog cooled to 18°; possibilities of intracardiac interventions under idioventricular rhythm in induced hypothermia.

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Contains an analysis of general and cardiovascular conditions in hypothermic dogs, particularly those cooled to 18°-19° C. Stressing the great resistance of the nervous system at this temperature the author recommends it as involving little risk for heart operations.

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46592. MALMEJAC, JEAN, 1905—, and G. NEVERRE. Sur les modifications d'activité du sinus carotidien refroidi. (Société de Biologie. Paris. Comptes rendus, 1956. t. 150, no. 3, p. 527–29.) 10 refs. Text in French. Title tr.: Changes in activity of the cooled carotid sinus.

Account of experiments on the vascularly isolated sinus of the dog, cooled to 20° C. and subsequently rewarmed. The barosensitivity and chemosensitivity of the sinus were studied. The latter was considerably more affected by low temperature than the former.

Copy seen: DNLM.

46593. MALMGREN, ANDERS JOHAN, 1834–1897. Nordiska hafs-annulater. (Svenska vetenskapsakademien. Öfversigt af förhandlingar, 1865. årg. 22, no. 1, p. 51–110, plates 8–15; no. 2, p. 181–92; no. 5, p. 355–410, plates 18–29.) Text in Swedish. *Title tr.:* Northern marine Annulata.

Contains a systematic list of over a hundred species of marine annelid worms from Svalbard waters, Barents Sea, Greenland Sea and Greenland waters, with keys to the genera, synonyms, Latin descriptions and data on geographic distributions. Many genera and species are described as new.

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46594. MALMGREN, FINN, 1895–1928. Havsisen. Resultat från Maudexpeditionen. (Naturen, Mar. 1926. aarg. 50, nr. 3, p. 87–96, 2 diagrs., 4 tables.) Text in Swedish. *Title tr.:* Sea ice. Results from the *Maud* expedition.

On the Maud's voyage from Bering Strait to the New Siberian Islands 1922–24, studies were made of development, life history, and physical properties of sea ice. Specific weight, salt content, and temperature characteristics were differentiated. Salt content varies with temperature at time of freezing, age of ice, thickness, and other conditions. Quickly frozen ice has greatest salt content. Older ice is less salty and more porous than new ice.

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46595. MALMSTROM, VINCENT HERSCHEL, 1926— . Lappland: northern Europe's strategic problem area. (Association of American Geographers. Annals, Sept. 1956. v. 46, no. 2, p. 261-62.)

Abstract of paper presented at the 52nd Annual Meeting of the Association, Montreal, Apr. 1–5, 1956. Norwegian, Swedish, and Finnish Lapland may be considered a single region united by common economic and social problems, notably isolation and neglect. Events of World War II, post-war reconstruction, strategic considerations in the "Cold War," have drawn attention to this area. Each of its three sections is economically unstable, but not the area as a whole. All three countries plan economic rehabilitation programs, Finland's involving international cooperation.

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46596. MALONE, G. K., and T. W. SELBY. Relationship of low temperature cranking resistance to viscosity characteristics of multigrade engine oils. (SAE transactions, 1956. v. 64, p. 602–607, illus., diagrs., tables.) Discussion p. 621–24.

Results are given of a full-scale cranking study using four brands of commercial 10W and 10W-30 oils in cars at 0° F, supported by low-temperature viscometric laboratory analysis. A maximum difference of 30 rpm in cranking speeds was obtained for 10W-30 multigrade oils. A maximum difference of 19 rpm was found between 10W and 10W-30 oils of the same brand. The low-temperature performance of multigrade oils is often not equivalent, grade for grade, to single-

grade oils. The results further showed that low-temperature oils should be classified, based on determined viscosity at low temperatures and at a specified shear rate. **Copy seen:** DLC.

46597. MALTE-BRUN, CONRAD, 1775–1826. Vzglíad na geograficheskie izyskania, eshche nesdíčlannya, i o luchshikh sposobakh provesti onya v díčlstvo. (Síčvernyl arkhiv, 1822, chast' 2, p. 24–44, 264–76, 337–49.) 7 refs. Text in Russian. Title tr.: A review of geographical discoveries not yet made, and the best ways to carry them out.

Discussion (by the Danish-born French geographer and founder of the Société de Géographie) of the still undiscovered regions of the world, noting (among other) the difficulties of arctic exploration. He speculates on: the existence of a land bridge above Bering Strait; Novaya Sibir', a land mass reaching to the North Pole or a group of islands; Sakhalin, island or peninsula. Routes are suggested for discovery of the North Pole by dog team from Baffin Bay; Northwest Passage via Foxe Basin rather than Baffin Bay; coast from Mackenzie River to Bering Strait should be investigated to find whether the American continent extends to the North Pole; East Greenland coast should be searched for survivors of the Viking colonies, etc. Copy seen: DLC.

46598. MALYSHEV, FEDOR ALEK-SEEVICH. Zagotovka torfa na udobrenie po sposobu gidrotorfa. (Akademifa navuk BSSR, Minsk. Instytut torfa. Trudy, 1956. t. 5, p. 85–105, tables, diagr., graphs.) Text in Russian. Title tr.: Preparation of peat for fertilizing purposes by the hydro-peat method.

A hydraulic method for preparation of liquid peat masses is described. It includes the flooding of the peat deposit and pumping out the peat masses directly on an agricultural experimental field. Equation and coefficients are given for computation of the size and length of the piping. The field, after filtration of water and drying was plowed for planting potatoes and rye. Crop results are tabulated and this method economically evaluated.

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MALYSHEV, FEDOR ALEKSEEVICH, see also Bodilovskii, V. A., and others. Zagotovka torfa . . . 1956. No. 44063.

**46599.** MAMEN, CHRIS. Mining on the Arctic Circle. (Canadian mining journal, June 1956. v. 77, no. 6, p. 90-94, 2 illus., table.)

At the Eldorado mine, Port Radium. Great Bear Lake, total underground lateral development exceeded 23 miles at the end of 1955. Approx. 175 tons of uranium ore are mined and treated daily by cut-and-fill methods, and the same amount of old mill tailings are reclaimed and retreated by dredging. Heavy water flows encountered on deeper mine levels necessitate sealing off a whole ore shoot before normal stope development starts. Diamond drilling, grouting, and stoping operations are described and performance data given. Ore control, hoisting and transportation, ventilation, and mine drainage (with pump data) are dealt with; also electric power, compressed air, heating, rolling stock, personnel, mine safety, and accommodation for staff and employees. Supplies and equipment are brought in by barge during the summer shipping season.

Copy seen: DGS.

46600. MANENTE, BERNARDINO A. Bases pour une nouvelle explication du mécanisme de l'hibernation artificielle; l'action de la clorpromazine sur le métabolisme de l'eau et son importance dans la production des phénomènes neuroplégiques. (Anesthésie et analgésie, 1956. t. 13, no. 4, p. 694–701, tables.) 6 refs. Text in French. Summary in English. Title tr.: Basis for a new explanation of the mechanism of artificial hibernation; effect of chlorpromazine upon the water metabolism and its importance in the production of neuroplegic phenomena.

Report of observations on dogs given the drug intravenously. Its effect appears in the first stage of neuroplegia and elicits a "short circuit" in all functional activities without producing death. This is effected by the re-distribution of water in the three fluid systems of the organism, bringing about an actual control of water metabolism.

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MANICA, M., see Ferroni, A. and M. Manica. Effetti della ipossia . . . 1956. No. 44879.

**46601.** MANK, EDITH W. A new species of *Haliplus*. (Psyche, June-Sept. 1940. v. 47, no. 2–3, p. 57–59, illus.)

Contains a description of H. falli n. sp., a beetle collected in July 1939 at Churchill, Manitoba by A. L. Wilk.

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46602. MANKAU, SAROJAM K. Studies on the helminth Echinococcus alveolaris (Klemm, 1883) from St. Lawrence Island, Alaska; development of broad capsules and scolices in alveolar cysts, in white mice. (American Microscopical Society, Transactions, Oct. 1956. v. 75, no. 4, p. 401–406, illus.) 2 refs.

A study of the parasite development in mice fed with gravid segments obtained from infected arctic foxes of St. Lawrence Island, Alaska. Alveolar cysts were fertile in 70 percent of the animals infected. Scolex production began 3-4 months after infection; the cysts often produced multiple broad capsules; sterile and fertile cysts developed side by side in the same cystic mass. Copy seen: DSI.

46603. MANKER, ERNST MAURITZ, 1893- . Borg Mesch. (Till fjälls 1956. årg. 28, p. 67, port.) Text in Swedish. Title tr.: Borg Mesch.

Obituary of this pioneer in Swedish mountain photography (1869–1956), the first to climb several peaks with photographic equipment, e. g. Kebnekaise in 1903. He recorded Lapp life and civilization also the development of Kiruna from wilderness to a modern mining community. He took part in a Nobile rescue expedition in 1927. Copy seen: SPRI.

46604. MANKER, ERNST MAURITZ, 1893- . Kultplatsen Pålnovuoddo. (Norrbottens läns hembygdsförening. Årsbok 1956, p. 55-66, illus.) 9 refs. Text in Swedish. Title tr.: The cult site at Pålnovuoddo.

Describes a Lappish sacred place in a valley about one km., on the Norwegian frontier, and north of Torneträsk (68°22' N. 19°06' E.). Idols, also reindeer horns and bones were found when the site was excavated in 1908 and 1909, and the writer visited it in 1952. The site is located where the valley becomes narrow with the sides steep. It probably dates from the era of the reindeer hunters as an extensive system of traps has been found in the valley.

Copy seen: SPRI.

46605. MANKER, ERNST MAURITZ, 1893- . Lapparna och renarna. (Samefolkets egen tidning, Dec. 1954. årg. 36, nr. 4, p. 2–3, illus., port.) Text in Swedish. *Title tr.:* Lapps and reindeer.

Reindeer husbandry was well developed in northern Scandinavia by the ninth century, an outgrowth of a kind of game protection exercised by hunters. Trap systems ingeniously constructed and arranged have been found, consisting of several hundred individual traps, extending for miles. These systems presuppose large groups of hunters, corresponding to the groups of nomadic reindeer herders of a later period. The organization of such groups ("sitah") is described: the reindeer are privately owned but tended collectively.

Copy seen: SPRI.

46606. MANKER, ERNST MAURITZ, 1893—. Över vidderna; skisser och studier från landet i norr. Stockholm, LTs förlag [1952] 304 p., illus, diagrs., ports., maps. Text in Swedish. *Title tr.:* Over wide expanses; sketches and studies from the northern land.

Popular account of a trip in search of remains of early cultures, made by the writer, Ørnulv Vorren, curator of the ethnographic division of the Tromsø Museum, and the artist Janis Cirulis, in Sept. 1951. They travelled by way of Kirkenes and westward across Finnmark in northern Norway. Remains of dwelling places, altars, hunters' traps, and artifacts were studied. With the aid of tree-ring and pollen analyses from deposits associated with them, attempts were to be made to determine their age. The account includes interesting observations on contemporary Lapps and their homeland. Copy seen: DLC.

46607. MANKER, ERNST MAURITZ, 1893- Ur lapparnas 1600-talskrönika. (Svenska turistföreningen, Stockholm. Årsskrift, 1950, p. 203–215, 8 illus., text map.) Text in Swedish. *Title tr.*: Lappish chronicles of the 16th century.

Deals with the early days of Christianity in Lapland, geographic descriptions, heathen practices and human characterizations.

Copy seen: DGS.

MANLEY, GORDON, 1902-, see Robin G. de Q., and others. The future . . . glaciology . . . 1956. No. 47616.

MANN, JESSE A., see U. S. Office of Naval Operations. Canadian North. 1956. No. 48635. MANNERFELT, CARL, 1913-, see Ahlmann, H. W. Sverige nu . . . 1950. No. 43506.

46608. MANNING, M. L. Visit of Greenlanders to Baffin Island. (Arctic circular, 1956. v. 9, no. 1, p. 2-3.)

Note on the visit described by F. Nielson, q. v. Copy seen: DLC.

46609. MANNING, THOMAS HENRY, 1911—, and others. The birds of Banks Island. Ottawa, Ministry of Northern Affairs and National Resources, 1956. iv, 144 p., illus., tables, map. (Canada. National Museum. Bulletin no. 143. Biological series no. 48.) About 150 refs. Other authors: E. O. Hohn and A. H. Maepherson.

Contains a study of the ecology, taxonomy, behavior, etc., of 62 species of birds, based on field work and collections made during 1952 and 1953. A series of general introductory sections deal with material and methods of study: field work; population estimates; weather, topography and vegetation; collecting and recording stations and, earlier work on the Island's birds. This is followed by the systematic list (p. 18-128) with information and data on occurrence and distribution, habitat, morphometry, color and color variants, nesting habits, observations on the young, migration, earlier studies, etc. Copy seen: DI.

46610. MANNING, THOMAS HENRY, 1911— . Narrative of a second Defence Research Board expedition to Banks Island, with notes on the country and its history. (Arctic, 1956. v. 9, no. 1-2, p. 3-77, 50 illus., 2 text maps.) 80 refs.

During July-Aug. 1953, the writer and I. M. Sparrow completed the circumnavigation of Banks Island by canoe, started in 1952 (Arctic Bibliography, No. 30678). He describes archeological work on Thule Eskimo houses at Cape Kellet in May-June, the overland journey to Castel Bay on the north coast, and the trip south by canoe. Notes and photographs of topographic features were made: tide readings taken; bird, mammal, plant, and geological specimens collected. Following the trip narrative, is a documented account of the exploration of Banks Island from its discovery by Beechey and Parry in 1820 to work of the Burton Island, Northwind and Labrador in 1954. Eskimo occupation is traced on the basis of archeological evidence and explorers' accounts. Topographic and geologic features of the southern highlands and coastal regions are described. Appendices (5) list: fossils collected; pollen analyses; manuscript charts from M'Clure's and Collinson's voyages, relating to the island; such landmarks as beacons, caches, cairns, etc., containing records and recent Eskimo houses and tent frames; 33 new and approved geographic names (45 earlier approved and a few unidentified are added.)

Copy seen: DLC.

46611. MANNING, THOMAS HENRY, 1911- The northern red-backed mouse, Clethrionomys rutilus (Pallas) in Canada. Ottawa, Dept of Northern Affairs and National Resources, 1956. 67 p. illus. tables, map. (Canada. National Museum. Bulletin, no. 144.) 60 refs.

A largely morphologic study, based on material collected in 1951 and 1952 at Tuktoyaktuk, Aklavik and Norman Wells in Mackenzie District and on other collections. Consecutive sections deal with age and skull morphology, breeding season, litter frequency and size, possible effect of weather on movements of young mice, rate of growth and development, size- and sexual variation, moults, individual and geographic variation in pelage, skull anatomy and morphometry (p. 25-47) taxonomy and origin, etc. Copy seen: DI.

MANNING, THOMAS HENRY, 1911 -, see also Eskimo. The Eskimo...invention...1956. No. 44803.

**46612. MANSELL, T. A.** Northwest Territories review. (Canadian mining journal, Feb. 1956. v. 77, no. 2, p. 87, 123, illus.)

Mineral production in Northwest Territories in 1955 was valued at \$23,454,064, compared with \$26,414,000 in 1954. Values of gold, silver, columbium pentoxide, tantalum pentoxide, lithia, pitchblende products, and petroleum production are given. Developments in the Yellowknife area and gold mining Pine Point lead-zinc area, Great Slave Lake are reviewed. Geologic mapping of 61,000 sq. mi. of eastern Mackenzie District by helicopter during the Cana-Geological Survey's Operation Thelon, and supplementary aeromagnetic survey of 15,000 sq. mi, are noted, also exploration of 120,000 sq. mi. of the Queen Elizabeth Islands (by helicopter) during Operation Franklin, and supplementary flights using airborne magnetometer. Copy seen: DGS.

46613. MANTUROVA, I. M. Vnekornevafa podkormka kapusty na severe. (Sad i ogorod, May 1956, no. 5, p. 23–24.) Text in Russian. *Title tr.:* Foliar feeding of cabbage in the North.

Experiments at the Igarka Agricultural Station show that foliar nutrition of cabbages in the North is efficient only where the soil is poor; it has no advantage over root feeding on good soil.

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MANUĬLOV, P. Tam gde

dobyvaût sobolîa. (Okhota i okhotnich'e khozîaîstvo, Oct. 1956, no. 10, p. 18–21, illus.) Text in Russian. *Title tr.:* In

the country of sable hunting.

46614.

Sketches life of Kety (Yeniseyans) in the village of Sulomay (approx. 61°40′ N. 91°20′ E.) on the Podkamennaya Tunguska River in Krasnoyarskiy Kray, and their hunting and trapping of fur-bearers, including sable. Progress of acculturation (schools, etc.), the activities and income (chiefly from hunting) of a collective farm are noted. Copy seen: DLC.

MAPLE, ELWOOD, see Wilcox, J. B., and E. Maple. Origin...audio-frequency geomagnetic...fluctuations. 1956. No. 48953.

46615. MARCERON, L. Durées de survie comparées de rats soumis au froid et recevant du saccharose ou de l'amidon. (Revue de pathologie générale et comparée, July 1955. année 55, no. 670, p. 1103–107, tables.) Text in French. Summary in English. Title tr.: Comparative survival times of rats exposed to cold and fed suerose or starch.

Survival times of animals fed sucrose exceeded by 20 percent those fed starch in cold environment. At room temperature the difference was only 5 percent. Loss of weight at death was "of the same order irrespective of the carbohydrate fed."

Copy seen: DNLM.

46616. MARCUSSEN, POUL V., 1907—, and J. RENDAL. Eradication of gonorrhea in a district of Greenland. (American journal of syphilis, gonorrhea and venereal diseases, 1951. v. 35, no. 4, p. 356–60, tables.) 4 refs.

Report of an experimental drive in the medical district of Nanortalik, at the southern tip of Greenland, with a population having a religious prejudice against the disease and thus not susceptible to

mass examination on a voluntary basis. Plan of work, examinations, therapy and results are presented and discussed.

Copy seen: DNLM.

MARCUSSEN, POUL V., 1907-, see also Denmark. Grønlands Styrelse. Beretning . . . Laegeekspedition 1947-48. 1949. No. 44594.

46617. MARDOIAN, M. G., and others. How to winterize construction equipment. (SAE journal, Dec. 1956. v. 64, no. 13, p. 60-67, 11 illus., 10 diagrs.) Other authors: F. M. Baumgardner, T. H. Fones, W. W. Cornman, A. Q. Spitler, P. W. Espenschade, and J. A. Klisch.

Three crawler tractors and one motor grader modified for cold climate operations were tested in a cold chamber and during the 1955–56 winter in northern Minnesota. Many deficiencies were noted, but generally good results were obtained. The starting times of the four winterized units in a cold room at  $-65^{\circ}$  F. are graphed. The equipment and winterization modifications are illustrated.

Copy seen: DLC.

46618. MARGELIN, ROBERT. Något om skogsförbättringsverksamhetens utveckling i Finnland. (Norske skogplanteskoler. Årsskrift, 1950, p. 59–71.) Text in Swedish. *Title tr.:* Comments on the development of forestry improvement activities in Finland.

Includes comment on state loans for forest improvement in northern Finland (p. 63) and (p. 70) on forest area and production.

Copy seen: DA.

MARGINOT, ROBERT A., see U. S. Office of Naval Operations. Canadian North. 1956. No. 48635.

46619. MARINE ENGINEER AND NAVAL ARCHITECT. Ice-breaking motorship "Magga Dan." (Marine engineer and naval architect, Dec. 1956. v. 79, no. 963, p. 483–86, diagrs., illus.)

The construction features, instrumentation, and auxiliary equipment of this addition to the Lauritzen Lines polar fleet are described. The vessel has been strengthened for service in ice by the use of heavy plating and closely-spaced intermediate frames. An ice cutter is provided above the rudder. Silhouettes and brig data are included on planned additions to the Lauritzen polar fleet: two highly ice-strengthened motorships of about 4,000 tons, the Thora Dan and Helga Dan, and two of about 2,400 tons,

the Anita Dan and Frida Dan, two icebreaking motorships of about 1,650 tons, the Magga Dan and the Thala Dan; and three ice-strengthened coasters of about 900 tons. Copy seen: DLC.

46620. MARINE ENGINEER AND NAVAL ARCHITECT. A nuclearpowered ice-breaker. (Marine engineer and naval architect, July 1956. v. 79,

no. 957, p. 234, illus.)

Account of projected Russian icebreaker is summarized (from Pravda), and the proposed vessel is sketched. Designed to displace 16,000 tons, the ship is 440 ft. long, has a 91-ft. beam, and is capable of carrying fuel and supplies for one year. Copy seen: DLC.

46621. MARINE JOURNAL. Power for cargo icebreakers. (Marine journal, Aug. 1956. v. 83, no. 8, p. 17-18, col. 2.)

Contains a brief description of the power system of three ice-strengthened cargo vessels being built for the U.S. Government. The vessels are designed for twin screws, each driven by a 1,350shp, double armature DC motor. Each motor will be supplied by a 100-kw., 900-volt, 1,000-r.p.m. generator.

Copy seen: DLC.

MARINI, MAURIZIO. L'età eroica delle esplorazioni polari. John Franklin. (Universo, Sept.-Oct. 1956. Anno 36, n. 5, p. 677-96, 5 text maps.) Text in Italian. Title tr.: The heroic age of polar explorations. John Franklin.

Popular account of land and sea explorations of Sir John Franklin in search of the Northwest Passage, 1818-1847; his final expedition; the Franklin Search and gradual discovery, between 1850 and 1885, of evidence concerning the fate of the expedition. Copy seen: DGS.

46623. MARINKOVITCH, V., and others. La répartition du radiophosphore dans les organes du rat en état d'hypothermie profonde. (Académie Serbe des Sciences. Bulletin, classe des sciences médicales, 1956. nouv. sér., t. 15, no. 3, p. 1.) Text in French. Other authors: V. Arnov-ljevitch and X. Chahovitch. Title tr.: Distribution of radiophosphorus in the rat organs during deep hypothermia.

Radiophosphorus injected into rats made hypothermic to 18°-20° C. was only very slowly resorbed and became differently distributed than in controls. Six hours after administration, the greatest concentration was found in the heart,

followed by the kidney, blood and brain: that in the liver, adrenals and spleen was lower than in controls.

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MARKALI, JOAR, see Gaarder, K. R., and others. Further . . . Calciopappus caudatus. 1954. No. 45010.

MARKALI, JOAR, see also Halldal, P., and J. Markali. Electron microscope studies . . . coccolithoporids . . . 1955. No. 45393.

46624. MARKGREN, MARTIN. Glaciation och landskap i norra Fennoskandia. (Svensk geografisk årsbok 1956. Årg. 32, p. 7–43, illus., map.) 74 refs. Text in Swedish. Summary in English. Title tr.: Glaciation and landscape in northern Fennoscandia.

Investigations in the central Kölen mountains do not support the hypothesis that some of the highest mountains from south Lapland to the Varanger peninsula were persisting nunataks during the Pleistocene glaciation. In the Lofoten area, climatic and morphological conditions may have favored nunataks, whether persisting or not. The Kölen slopes drainage (varieties of two systems, one ortholateral, the other radially arranged) was studied but no nunatak lakes found in the investigated area. Transport of material by the ice from the west predominates over that from the east in north Sweden. The traces of the last ice divide were followed further to the west than earlier expected. There were in fact two late parallel ice divides, and in the end scattered centers alone were left, coinciding with the recent glacial centers which must also have acted as initial feeding areas. There was one southerly ice mass, draining into the Atlantic and the Baltic, and one northerly draining into the Arctic Ocean. The older modifications of the glacial landscape were studied by means of "hällanalys", i. e. an analysis of the glacial surfaces of outcropping rocks. This method is briefly discussed and some important results of the analysis are given. The author isolated and followed glacial erosion forms in different material from very small simple forms to greater and more complicated ones and found the forms and phases dependent on the structures of the eroded material A certain rhythm is observed in the glacial erosion but not elucidated. The role of recent and ancient frost action is also discussed. Copy seen: DLC.

46625. MARKGREN, MARTIN. Nunatakker i inlandsisen; några fakta och synpunkter. (Svensk geografisk årsbok 1954. Årg. 30, p. 47-54, illus., map.) 16 refs. Text in Swedish. Summary in English. *Title tr.:* Nunataks in the inland ice; some facts and viewpoints.

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Reports author's examination of the most important of the supposed nunataks in Swedish Lapland and adjacent parts of Finland and Norway. Glacial erosion marks and glacial deposits were investigated. The existence of persisting nunataks is not indicated for some areas, e. g. Pältsa-Måskokaise, (69° N. 20°13' E.) and most probably the highest of the Sarek mountains (67°27' N. 17°40' E.); it is established that they were covered by the ice. On the Norwegian coast the question is more complicated and demands further investigation.

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46626. MARKGREN, MARTIN. On ice-age stages in S. Lapland, especially in the valley of Lake Malgomaj and Lake Kultsjön. (Geologiska föreningen, Stockholm. Förhandlingar, 1951. bd. 73, häfte 3, no. 466, p. 445–54, diagr., 3 text maps.) 27 refs.

Preliminary results of three years' field study, near Blaikfjäll (approx. 65°05' N. 15°30' E.). Ice-dammed lake shore marks, eskers, deltas, boulder trains, boulder counts, drainage features, terraces, col gullies, glacial striae and morainal material are considered. Comparison is made with the glacial history of northern Swedish Lapland, in a discussion of the values and problems of using these features as evidence of relationships to the last ice of the Swedish-Norwegian border region.

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**46627.** MARKIN, ARKADIĬ. The Angara cascade. (News, Mar. 1, 1956, no. 5 (112), p. 22-23, illus.)

Explains project for a series of hydroelectric stations on the Angara River: the first near Irkutsk, under construction; the second, at Bratsk, with a 3,200,000 kw. potential, to be built during the Sixth Five-Year Plan (1955–60). The latter involves damming the Padun Rapids and will make the Yenisey-Angara navigable for sea-going vessels up to Lake Baykal. Copy seen: DLC.

46628. MARKIN, ARKADII. Karandash inzhenera risuet novoe litso planety. (Tekhnika molodezhi, June 1956. god 24, no. 6, p. 20–26, illus. maps.) Text in Russian. *Title tr.:* The engineer's pencil draws a new face on the planet.

Significance of various hydrological projects for power development and improvement of climatic conditions of six continents is discussed. Among these projects, attention is given to that of A. A. Shul'ga, a modification and expansion of the old M. M. Davydov project to create a mid-Siberian sea with a set of dams on the rivers Ob', Irtysh, Yenisey, Angara, etc. The modification consists of a diversion of the southern portion of the rivers in a westerly direction by means of canals and dams with gigantic hydroelectric plants; the northern parts of the Lena, Olekma, Aldan and other arctic rivers would be directed to the lower Yenisey and Ob' Rivers. This project also involves construction of a large dam across Bering Strait to control the Pacific Ocean current and to re-direct it into the arctic sea. Copy seen: DLC.

**46629.** MARKIN, ARKADII. Weather factory in Bering Strait. (News, Jan. 1, 1956. no. 1 (108), p. 22–24, maps.)

Describes Soviet plan to close the Bering Strait by a dam to prevent cold current entering the Pacific. An artificial warm current would be generated by a 2-3,000,000 kwt. atomic power station installed in this dam, with a cross-section of 1.3 sq. mi. Flowing into the Arctic Basin, this "man-made Gulf Stream" would ameliorate climate of adjacent regions; thus doing away with the permafrost belt and the Siberian anti-cyclone.

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46630. MARKLUND, NILS. A Cambro-Ordovician type-section in the Sarvas region S. E. of Nasafjäll, Lapland, and problems suggested thereby. (Geologiska föreningen, Stockholm. Förhandlingar, 1952. bd. 74, häfte 3, no. 470, p. 353–94, 10 illus., diagr., 2 text maps, 12 tables.) 16 refs.

Continued research in this Norwegian-Swedish border region near the Arctic Circle; where bedrock interpretation has been controversial, elucidates its complex geology. The Sarvas series is proposed as name for the newly discriminated middle Ordovician series, said to correspond roughly to the Hovin series in the Trondheim region of Norway. No fossils were found. Similarity of sedimentary evolution is the basis for correlation.

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46631. MARKOV, KONSTANTIN KONSTANTINOVICH. Problemy paleogeografii czwartorzędu ZSRR. (Przegląd geograficzny, 1956. tom 28, zeszy 2, p. 251–68, 8 illus., cross-sections, diagrs.) 2 refs. Text in Polish. Summary in English. Title tr: Problems of paleogeography of the Quaternary in the U. S. S. R.

Most Soviet investigators assume three glacial and two interglacial periods in European U. S. S. R., although some favor seven or eight glaciations and others only one. In Asiatic U. S. S. R. only the western section underwent continental glaciation. Local mountain glaciation occurred in the central and eastern regions. Periods of formation of perennially frozen ground correspond to the glacial periods. Postglacial time is divided into only four climatic phases, as the existence of the Sub-boreal is questioned.

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MARKOV, KONSTANTIN KONSTANTINOVICH, see also Gerasimov, I. P., and K. K. Markov. Paleogeografifa... 1954. No. 45075.

46632. MARKOV. S. N. Izvestifa o severe arabskikh geografov xiv veka. (Letopis' Severa, 1949, t. 1, p. 288–91.) 7 refs. Text in Russian. *Title tr.:* Reports about the North by Arabian geographers in the 14th century.

Notes reports by several Arabian scientists and writers, who correctly described the North of Asia as surrounded by seas.

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MARKOVIĆ-ĐAJA, L., see Đaja, I., and others. Hipotermija . . . 1956. No. 44529.

MARKOVIČ-GIAJA, LEPOSAVA, see Giaja, J., and L. Markovič-Giaja. Les hypothermies primaires et secondaires. 1955. No. 45093.

MARKOVIČ-GIAJA, LEPOSAVA, see also Giaja, J., and L. Markovič-Giaja. Sur l'intensité des échanges . . . différentes hypothermies. 1956. No. 45094.

MARKS, E. P., see Sailer, R. I., and others. Notes on Culicoides . . . 1956. No. 47754.

46633. MARKS, M. Klimat Eniseïska po dvíenadísatilíetnim nablúdeniíam 1871–1883. (Akademiía nauk SSSR. Zapiski, 1887. t. 55, knizhka 1, p. 132–63, tables.) Text in Russian. *Title* tr.: The climate of Yeniseysk on the basis of twelve years' observations, 1871–1883.

Climatic conditions and methods of meteorological observation are described, with tabulated monthly and annual average values for each year. Types and main characteristics of meteorological instruments are given with occasional corrections. Variations in barometric pressure during the 12-year period ranged 727.2-790.7 mm. The lowest air temperature observed was -58.6° C. on Jan. 1872 (records of Gmelin -84.4° C., and Shapp, -87.5° C. in 1873 are discounted). Low temperature conditions were found to restrict rapid movement by man and animals. Snow storm ("purga") with circular turbulent wind and temperature about -15° C. produced more severe physiological effects than very low temperature alone. The warmest weather was observed during June-August with temperatures from 34.7 to 2.1° C. (without frost). Data are added on freezing and opening of the Yenisey River 1826-1854. Ice-cover duration averaged about 180 days (Nov. 19-May 6). The freezeup extremes ranged from Nov. 2 (1840) to Dec. 18 (1881), while break-up dates varied between April 21 (1859) and May Copy seen: DLC. 19 (1883).

46634. MARMET, J., and E. GRAND-JEAN. Untersuchungen über das Verhalten des Ruhestoffwechsels während langdauernder Kälteexposition in der Arktis. (Helvetica physiologica et pharmacologica acta, 1955. v. 13, fase. 3, p. 173–77, illus.) 6 refs. Text in German. Summary in English. Title tr.: Investigations on basal metabolism during long cold-exposure in the Arctic.

Account of study, carried out at Zurich, Montreal, and in the field, of four participants in the Baffin Island Expedition of 1953 (cf. No. 33423). The basal metabolism first increased in the Arctic, but after the first month returned to normal or even below that found in Zurich and Montreal.

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46635. MAROIS, MAURICE. Étude du développement d'un myélome transplantable chez le rat en hypothermie. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 1, p. 56-60, illus.) 13 refs. Text in French. *Title* tr.: Study of the development of a transplantable myeloma in the hypothermic rat.

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General hypothermia of 20° C. interrupted daily for an hour retarded the growth of Guerin's myeloma T. 58 and increased the rate of survival. Local hypothermia of the area into which the tumor was transplanted (tail) prevented its growth, but the animals died from metastases.

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MARSH, DONALD B., Bishop of the Arctic, see National Geographic Society. National Geographic on Indians . . . 1955. No. 46941.

46636. MARSH, GORDON H. A stone lamp from Yukon Island, Alaska. (Alaska. University. Anthropological papers, May 1956. v. 4, no. 2, p. 113–15, illus.) Refs. in text.

Reports the chance find made in 1955 by George Yuth on the beach of Kachemak Bay. The stone lamp, 17 in. long, 9-5½ in. wide has unusual carving of a reclining sea mammal on its wick end, also a human head with Eskimoid face on its oil reservoir. It belongs to an early Eskimo-Aleut stratum on Alaska's south coast.

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MARSH, GORDON H., see also Laughlin, W. S., and G. H. Marsh. Trends in Aleutian . . . artifacts. 1956. No. 46265.

46637. MARSHALL, GEORGE. Robert Marshall as a writer. (Living wilderness, Autumn 1951. v. 16, no. 38, p. 14–23, ports.) Approx. 130 refs. Supplement pub. Summer 1954, v. 19, no. 49, p. 31–35, approx. 80 refs.

Contains an account of his brother's life and thought, followed by a bibliography of his published works (many on Alaska), reviews of his writings, and articles about him. Supplement contains further biographical and bibliographic material. In all, 104 works by Marshall, 34 reviews and 72 biographical items are listed.

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MARSHALL, GEORGE, see also Marshall, R. Arctic wilderness . . . 1956. No. 46638.

46638. MARSHALL, ROBERT, 1901–1939. Arctic wilderness. Edited, with an introd. by George Marshall; foreword by A. Starker Leopold. Berkeley, Uni-

versity of California Press, 1956. xxvi, 171 p. 30 illus., 6 maps (1 fold.)

Account of Marshall's four trips to the northern Koyukuk drainage basin and the Brooks Range in the area 67°-68°15' N. 149°-154° W., northern Alaska, in 1929, 1930-1931, 1938, and 1939. Scenforests, settlement of Wiseman (67°20' N. 150°13' W.), Eskimo and white "characters" of the region, etc., are described. Mountain-climbing experiences (about 28 peaks, mostly first ascents), several winter trips, etc., are recounted. Author made growth studies of many stands of trees and carried out topographic mapping. He was Chief. Division of Recreation and Lands, U. S. Forest Service. Introductory sketch of his life and writings is contributed by his brother. Copy seen: DLC.

46639. MARSHALL, STROTHER B., and others. Temporary circulatory occlusion to the brain of the hypothermic dog. (Archives of surgery, Jan. 1956. v. 72, no. 1, p. 98-106, illus., tables.) 17 refs. Others authors: J. C. Owens and H. Swan.

Account of experiments on dogs with three types of occlusion of circulation and a hypothermia of 26–23° C. When the arterial supply alone was occluded, a three-fold occlusion time was reached as compared to control conditions; simultaneous occlusion of both the arterial venous paths permitted a two-fold increase.

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46640. MARTI, TV. TV. Sostofanie zapasov belomorskikh sel'del v Kandalakshskom zalive. (Rybnoe khozfalstvo, Sept. 1956. god 32, no. 9, p. 61-64, graph, tables.) Text in Russian. *Title tr.:* Condition of the White Sea herring stocks in Kandalaksha Bay.

Information is presented on the White Sea herring with emphasis on the Kandalaksha race, its biology, growth, size, propagation, etc. Data of catches since 1920 and their fluctuations, age classes, calculated stock are given. Catches are analyzed according to localities; protective measures are discussed.

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46641. MARTIN, JEAN, 1908—, and A. JOSET. Anisotropie de la vitesse des ondes séismiques dans les glaciers du Groenland. (Annales de géophysique, 1949. t. 5, fasc. 4, p. 331–32, diagr.) Text in French. Title. tr.: Anisotropy of the velocity of seismie waves in Greenland glaciers.

Longitudinal-wave propagation was measured at a point situated 25 km. in the interior of the Inland Ice where the ice thickness is near 800 m. during the French Polar Expeditions of 1949. Velocity measurements were made in six directions along regular hexagons. A maximum velocity of about 3700 m./sec. was measured along the west-east axis, the direction of surface fissures and the apparent direction of maximum compression. The velocity increased by about 250 m./sec. at a depth of 300 m. The velocity anisotropy can be attributed to pressure at the interior of the ice. Copy seen: DLC.

46642. MARTIN, JEAN, 1908—, and others. Groenland, 1948—1952; gravinétrie, 1<sup>re</sup> partie, valeurs de g. Paris, Expéditions polaires françaises, 1954. 152 p. illus., diagrs., tables. (Expéditions polaires françaises. Expéditions arctiques, 1948—52. Résultats scientifiques, no. N. III, 3.) Text in French. Title tr: Greenland, 1948—1952; gravimetry part 1, g values. Other authors: P. Stahl, F. Munck, and A. Joset.

Gravity data obtained on the Greenland icecap, at secondary stations in Iceland, and at Port Victor, Jakobshavn, Godthaab, Ivigtut, Faeringerhavn, Holsteinsborg, and Godhavn on the west coast of Greenland during the summers of 1948 and 1951 are tabulated. The high-range Western gravimeters employed are described, and methods of analysis are discussed. Possible closure errors and calibration from numerous ties are described. Appended (p. 131–48) are describtions and illus. of the stations.

MARTIN, JOHN C., see U. S. Office of Naval Operations, Canadian North. 1956. No. 48635.

MARTIN, L. J., see Stelck, C. R., and others. Middle Albian Foraminifera . . . 1956. No. 48194.

46643. MARTIN, LAWRENCE, 1880–1955. Geographical influences in Alaska. (Journal of geography, Nov. 1910. v. 9, no. 3, p. 65–70.)

During four summers in Alaska over a six-yr. period (1905–1910?) the author saw great changes in development of resources, industry, growth of cities and highways. He discusses topography and climate, their influence and that of other

factors on exploration and settlement, fur trade, fisheries, gold, coal and copper mining, forests and agriculture, commerce and towns. *Copy seen:* DGS.

46644. MARTIN, LAWRENCE, 1880–1955. Gletscheruntersuchungen längs der Küste von Alaska. (Petermanns geographische Mitteilungen, 1912. Jahrg. 58, August-Heft, p. 78–81; September-Heft, p. 147–49, 5 illus. on 3 plates, 2 maps incl. 1 fold.) Text in German. Title tr: Glacier investigations along the coast of Alaska.

Contains results of the National Geographic Society Alaskan Expedition, May-Sept. 1910. Investigations included the movements of Laperouse Glacier at the foot of Mt. Fairweather; influence of 1899 earthquakes on Yakutat Bay glaciers; movements of glaciers in Copper River valley; glaciers of the Prince William Sound region and submarine topography of College Fiord and Barry Arm, Prince William Sound. Each area is discussed in some detail.

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MARTIN, W. R., see International Commission for NW. Atlantic Fisheries. Annual proceedings . . . 1955–56. 1956. No. 45703.

MARTINET, M., see Giroud, A., and M. Martinet. Hypovitaminose . . . 1956. No. 45126.

46645. MARTYNOV, G. A. K vyvodu osnovnogo uravnenia teploprovodnosti dlia promerzafishchikh i protaivafishchikh gruntov. (In: Akademifa nauk SSSR. Institut merzlotovedenifa. Materialy k osnovam uchenifa o merzlykh zonakh zemnof kory, 1956. vyp. 3, p. 167–78, graphs.) 10 refs. Text in Russian. Title tr.: Derivation of a basic equation for heat transmission in freezing and thawing ground.

The influence of various factors on heat transmission in ground at temperatures near 0° C. is discussed, considering heat conductivity, convection and heat transmission with water filtration and migration as primary factors for determining thermal conditions within freezing and thawing strata. The process of deglaciation is mathematically expressed, using data of Kersten and Nersesova, with linear relation for simple cases and with non-linear differential equations for more complicated thermophysical processes. Equations are given separately

for ground layers with and without major changes in water state, also for conditions along the separating boundary.

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4646. MARTYNOV, G. A. O kalorimetricheskoĭ metodike opredeleniûa kolichestva nezamerzsheĭ vody v merzlykh gruntakh. (In: Akademiân nauk SSSR. Institut merzlotovedeniâ. Materialy k osnovam ucheniâ o merzlykh zonakh zemnoĭ kory, 1956. vyp. 3, p. 179–85.) 6 refs. Text in Russian. Title tr.: The calorimetric method for determinating the amount of unfrozen water within frozen ground.

Theoretical problems in using the calorimetric method for measurements in frozen ground are discussed. The accuracy of the measuring procedure described by Nersesova. (No. 41569-41571) is criticized: the proper theoretical basis is lacking for determination of specific heat and heat of ice fusion in thinly dispersed ground (clays, argillaceous soils) freezing at temperatures below 0° C. Computed heat is affected by heat of adsorption and by overcrystallization of strongly bound water molecules. This crystallization is accompanied by liberation of heat of phase transformation, which increases the effective specific heat of bound water. Wet ground at freezing is differentiated into ice and mineral lamination, but at the melting the process is reversed. In view of these factors, use of the calorimetric method requires further study. Copy seen: DLC.

46647. MARVICH, E. S. Fisheries management in lakes of interior Alaska. (*In:* Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 192.)

Contains information on overfishing by sportsmen, seasonal growth period of lake fish (about five months), water temperatures, lake rehabilitation and stocking, risk of importation of exotic fish, cooperation with local population, etc.

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MARVIN, ROSS G., 1880?-1909, see Bushnell, V. C. Marvin's . . . journey, 1906. 1956. No. 44210.

46648. MASHKEVICH, T. Prezhde chem stroit' zavod. (Vokrug sveta, Sept. 1956, no. 9, p. 1-4, illus., map.) Text in Russian. *Title tr.*: Before building the factory.

Yakutia has long been known as an area with abundant iron ore and Yakuts

as good smiths; Bering set up a foundry near Yakutsk to supply his expedition; pig iron has been produced in the Vilyuy Basin. Recently rich deposits of iron ore and coal have been found in the Aldan basin, a basis for a future industrial center; competition of Trans-Baykal iron ore deposits however, may delay realization of the Yakutia project.

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46649. MASLOV, V. P., and E. L. KULIK. Novafa triba vodorosle! (Bereselleae) iz karbona SSSR. (Akademifa hauk SSSR. Doklady, Jan. 1, 1956. v. 106, no. 1, p. 126–29, fig.) 4 refs. Text in Russian. Title tr.: A new tribe of algae (Bereselleae) from the Carboniferous of the U. S. S. R.

Includes a description of Dvinella comata native to Arkhangel'sk province.

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46650. MASLOVA, G. S. Narodnaía odezhda russkikh, ukraintsev i belorusov v xix - nachale xx v. (Akademiía nauk SSSR. Institut étnografii. Trudy, 1956. nov. serifa, t. 31, Vostochnoslavíanskil étnograficheskil sbornik, p. 541–757, 85 illus., fold. maps.) Refs. Text in Russian. Title tr.: Russian, Ukrainian, and White Russian national dress in the 19th and early 20th centuries. East Slavic ethnographic collection.

Includes scattered references on national and professional garments worn in northern Russia and northwestern Siberia, giving also their local names. Of special interest are five maps (between p. 582–83, 604–605, 623–24, 662–63, 716–17) showing the regional distribution (including Arkhangel'skaya Oblast') of specific items: men's shirts (kosovorotka), pants (porty), women's shirts (rubakha) and dresses (sarafan), women's headdresses, and bast shoes (lapti). Indexes of illus. (p. 764–66) and subject matter (p. 790–800) are appended.

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MASLOVA, G. S., see also Potapov, L. P. Istoriko-étnograficheskií ocherk russkogo naseleniâ Sibiri . . . 1956. No. 47433.

46651. MASON, OTIS TUFTON, 1838–1908. The man's knife among the North American Indians; a study in the collection of the U. S. National Museum. (U. S. National Museum. Annual report, pub. 1897, pub. 1899, pt. 2, p. 725–45, illus., table.)

Discusses the industrial knife, as

distinct from the domestic, or so-called woman's knife. With the inset curved or straight iron blade, it is used for whittling, carving and etching by North American Indians and Eskimos. The man's knives of the Museum's collection, including curved knives from Labrador, Anderson and Mackenzie Rivers in Northwest Territories, Point Barrow and southern Alaska, are described with illus. Appended list gives short description, provenience, etc., of a hundred of these knives, mostly from northern Canada and Alaska.

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MASON, W. A., see Stone, C. P., and W. A. Mason. Effects of hypophysectomy on behavior in rats, 3; thermoregulatory behavior. 1955. No. 48215.

46652. MASORO, EDWARD JOSEPH, 1924—, and C. L. ASUNCION. Fatty acid synthesis from dietary carbohydrate in relation to cold exposure. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 126.)

Account of studies on rats exposed for 24 hrs. to 2°-6° C. and fed a diet containing C<sup>14</sup>-labeled glucose. When data are expressed in milligrams of glucose converted into fatty acids, the cold-exposed rats showed a lipogenic activity equal at least to that of the controls.

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46653. MASSACHUSETTS TUTE OF TECHNOLOGY. Arctops
Project. [Washington, D. C.] National
Academy of Sciences, Research Board for
National Security, 1946? 5 1. diagr.,
text map.

Outlines a project in arctic operations initiated at the Massachusetts Institute of Technology by the Research Board of National Security as an agency (Feb. 1945-Mar. 1946) of the National Academy of Sciences, and with United States Army and Navy support. The project proposes to consider the operating problems involved in the establishment of arctic meteorological stations, and to investigate the application thereto of recent developments of equipment materials and supplies. A full operating plan will be developed for the establishment of an assumed ultimate network of arctic stations. Copy seen: DWB.

46654. MASSACHUSETTS INSTI-TUTE OF TECHNOLOGY. Dept. of Civil and Sanitary Engineering. Soil Engineering Division. Design and operation of an hydraulic analog computer for studies of freezing and thawing of soils. Boston, Mass., Arctic Construction and Frost Effects Laboratory, May 1956, ix, 43 p. illus., 7 diagrs. (5 fold.), charts, tables. (U.S. Army. Corps of Engineers. Contract no. DA-19-016-Eng-2743.)

"The design, construction, and operation of the hydraulic analog computer developed by the Corps of Engineers in order to improve techniques for predicting subsurface temperatures, especially frost and thaw penetration below airfield pavements, are described. The computer and the analogous relationships among parameters in the thermal and fluid-flow systems are discussed, and the developments in hydraulic analogs in various countries are outlined. The design requirements, including the simulation of freezing and thawing, the selection of the working fluid, and the assembly of the various components of the computer are described. The programming procedures for the computer are outlined, and the solution for a sample problem is given. The computer has been found very useful for solving complex one-dimensional freezing and thawing problems in soil, and its applicability for solving other diffusion problems in engineering is broad."-SIPRE. Copy seen: DLC.

46655. MASSACHUSETTS INSTI-TUTE OF TECHNOLOGY. Dept. of Meteorology. A report on the climatology and typical synoptic situations of the North Atlantic. Cambridge, Mass. [Oct. 1942.] 87 p. 59 maps.

The general region covered includes Eastern Canada, Greenland and Western Europe, ranging as far north as approx. 75° N. lat. A brief description of the climatology of the area is given by J. M. Austin, and average conditions are mapped for pressure and winds, sea surface and air temperatures, frequency of gales, cloudiness, fog, and precipitation, and lower level of icing. Typical synoptic map series for different seasons are illustrated and discussed by H. C. Willett.

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MASSENTI, S., see Buongiorno, F., and others. Contributo angiografico . . . dell' ipotermia profonda, 3 . . . venoso portale . . . 1955. No. 44199.

MASSIN, M., see Lindenberg, A. B., and M. Massin. Influence de la température . . 1956. No. 46366. MASSULO, E. A., see Huertas, J., and others. Effects of hypothermia . . . electrical activity . . . 1956. No. 45635.

MASTERTON, J. P., see Lewis, H. E., and J. P. Masterton. British North Greenland Expedition 1952–54; medical and physiological aspects. 1955. No. 46338.

MATAS, MATTHEW, see Meltzer, H., and others. Echinococcosis . . . Indians and Eskimos. 1956. No. 46704.

MATEER, C. L., see Godson, W. L., and C. L. Mateer. The Canadian meteorological programme . . . International Geophysical Year. 1956. No. 45151.

46656. MATHER, J. R., and C. W. THORNTHWAITE. Microelimatic investigations at Point Barrow, Alaska, 1956. Centerton, N. J., 1956. 51 p. diagrs., illus., maps, tables. (Drexel Institute of Technology. Laboratory of Climatology. Publications in climatology, v. 9, no. 1, Arctic Institute of North America, Technical report no. 1.)

The results of systematic investigations from June-Sept. 1956 on the heat and moisture exchange between the earth and the atmosphere are reported, and the methods of measurement and instruments used are described. Observations were conducted in an open area of highcentered polygons, a low, poorly drained area with low-centered polygons, and on a dry ridge area. Studies were made on wind velocity and air temperatures 20 cm., 40 cm., 80 cm., and 160 cm., above the ground, soil temperatures to a depth of 25 cm. (depth of permafrost thaw), dew-point temperatures, radiation, evapotranspiration, precipitation, and vapor pressure. Data on the results of measurements and the computed heat budget are tabulated; the instruments used are evaluated; and suggestions for further research are made.

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 MATHEWS,
 WILLIAM
 HENRY,

 1919 , see
 Mackay, J. R., and W. H,

 Mathews.
 Superficial geology . . .

 Firth River . . site . . . 1956.
 No. 46539.

MATHIESEN, AXEL F., see Vollan, O. Ishavsfart . . . 1951. No. 48798.

46657. MATHIEU, OLIER. Current practice in snow and ice control in Canada. (Roads and engineering construc-

tion, Oct. 1956. v. 94, no. 10, p. 210+, 7 tables). Also pub., with photo. illus. added, in Engineering and contract record, Oct. 1956. v. 69, no. 10, p. 88-92+.

Contains the results of a survey on snowdrift control and snow and ice removal from roads in the ten provinces of Canada, based on questionnaires sent out by the Canadian Good Roads Association. Data are tabulated on material and equipment available in each province, methods and time of application of abrasives and chemicals, effects of the chemicals on concrete, some of the special problems encountered, and estimates of cost. The increased use of chlorides for snow and ice control is noted.

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46658. MATHISEN, TRYGVE. Der Svalbard-Archipel und die wachsende Bedeutung der Arktis. (Europa Archiv, July 20, 1956. Jahr. 11, Folge 14, p. 9029-9034.) 15 refs. Text in German. Title tr.: The Svalbard archipelago and the increasing significance of the Arctic. Also pub., somewhat condensed and in Norwegian, as Svalbard mellom øst og vest in Polarboken, 1956, p. 147-50.

Information is presented on the international significance of the Arctic in the strategic and economic sense, and the position of the countries concerned in this area; the history and economic development of Svalbard; the latter since 1920 under Norwegian rule, and Russian negotiations concerning Svalbard after 1944 are summarized. Coal production, meteorological work, and relations between Norwegians and Russians are considered. Problem of command of these islands in indicated as part of the overall arctic situation.

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46659. MATSUDA, KOJIRO, and others. Recovery of membrane potential of dog's ventricle after a long exposure to low temperatures; a preliminary communication. (Tohoku journal of experimental medicine, Apr. 1956. v. 63, no. 4, p. 334, illus.) Other authors: T. Hoshi and S. Kameyama.

Account of observations on excised samples of ventricular free walls kept in Ringer's of 2±1° C. for 24 to 72 hrs., and then rewarmed. After 24 or 48 hrs. all samples, after 72 hrs., the majority of them resumed resting and action potentials identical with those prior to cooling.

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MATTHEWS, EDWARD C., see Kaplan, S., and others. Oxygen availability . . . 1956. No. 45887.

4660. MATTHEWS, L. HARRISON. The hibernation of mammals. (Smithsonian Institution. Annual report, 1955 pub. 1956, p. 407-417, illus.) 10 refs.

Contains information on the effects of the seasonal low temperature upon animal activity and behavior; nocturnal torpidity and fall of body temperature and metabolism. Hibernation in a bird and in mammals is treated, with consideration of longevity of hibernators, physiology of hibernation, tissue changes during hibernation, etc.

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MATTHIES, E., see Frohberg, H., and others. Vergleichende Tiefkühlversuche . . . Tumor . . . 1955. No. 44986.

46661. MATVEEV, G. K. Odnopoloznyĭ sannyĭ polupritsep dlia vyvozki lesa v khlystakh. (Lesnata promyshlennost', Nov. 1956. god 34, no. 11, p. 16–17, illus., table, diagrs.) Text in Russian. Title tr: Single-runner sled of the semi-trailer for transportation of long logs.

A special semi-trailer connected to a truck is described in detail with photos, and drawings. The trailer has a single, central sled runner and two side snow shoes attached to a cross bar. It is equipped with a pivoting log-holding arrangemement of six- or eight-ton capacity. Logs of different lengths can be transported on this semi-trailer.

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4662. MAVOR, GEORGE E., and others. The effectiveness of hypertonic glucose in resuscitation of the hypothermic heart following potassium chloride arrest. (Circulation research, 1956. v. 4, no. 4, p. 389-92, illus.) 8 refs. Other authors: R. K. McEvoy, and E. B. Mahoney.

Account of investigation on reviving hypothermic dog's heart with cardiac arrest produced by coronary perfusion of potassium chloride during sinus rhythm and during ventricular fibrillation. Injection of hypertonic glucose facilitated resuscitation of rhythmic beats during the responsive phase of the ventricles.

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46663. MAVOR, GEORGE E., and others. Potassium and the hypothermic heart. (American journal of physiology, June 1956. v. 185, no. 3, p. 515–20,

illus., tables.) 23 refs. Other authors: R. A. Harder, R. K. McEvoy, A. B. Coord and E. B. Mahoney.

In dogs made hypothermic to 26° C. with respiratory control to prevent hypercapnia, levels of plasma K and glucose fell in a parallel manner. During caval occlusion and circulatory arrest, a negative coronary arteriovenous K difference developed. Some evidence of failure of glucose utilization at low temperature is indicated. Copy seen: DNLM.

4664. MAVOR, GEORGE E., and others. Potassium effects in hypothermia; an experimental study. (Surgical forum, 1956. v. 6, p. 124-28, tables.) 8 refs. Other authors: R. A. Harder, R. K. McEvoy, G. L. Emerson, and E. B. Mahoney.

Account on the effects of potassium administration to the hypothermic dog heart both in treatment of ventricular fibrillation and for induction of cardiac arrest; resuscitation from the latter, using 50 percent glucose and insulin, is also described. The latter method significantly hastened the return to normal conditions.

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46665. MAVOR, GEORGE E., and others. Procaine amide in hypothermia; an experimental study. (Journal of thoracic surgery, June 1956. v. 31, no. 6, p. 744-49, illus.) 9 refs. Other authors: R. A. Harder, G. L. Emerson, and E. B. Mahoney.

This drug administered intravenously did not prevent ventricular fibrillation in dogs under hypothermia and circulatory arrest. Intracardiac injection or coronary infusion had no effect and converted the ventricular myocardium into a non-remedial state of slow conduction; toxic effects of the drug on the brain were also noted.

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MAXSE, V. C., see Acland, C. M., and others. Fågelobservationer...1956. No. 43485.

46666. MAY, L. CARLYLE. A survey of glossolalia and related phenomena in non-Christian religions. (American anthropologist, Feb. 1956. v. 58, no. 1, p. 75–96.) 89 refs.

Discusses the so-called speaking-intongues (language of spirits, language of animals, sacerdotal language and xenoglossia) as a religio-medical function practiced by shamans of aboriginals including: Chukchis, Koryaks, Lapps, Yakuts, Tungus, Samoyeds, and Eskimos. The Middle and Far East are suggested as cradles of glossolalia. In the Northern Hemisphere, spirit and animal language prevail in the Arctic while xenoglossia is confined to the subarctic region.

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46667. MAYAUD, NOËL. Étude sur la migration et les zones d'hivernage des sternes Caspiennes Hydroprogne caspia (Pallas) d'Eurasie. (Alauda, 1956. t. 24, no. 3, p. 206–218, 3 text maps.) 35 refs. Text in French. Title tr.: A study of migration and winter quarters of the Caspian tern Hydroprogne caspia (Pallas) in Eurasia.

This cosmopolitan bird, known on five continents, nests chiefly in Swedish Lapland (Luleå and Piteå Lappmark) and northern Finland, and migrates to winter grounds in the Sudan, Tunisia and Egypt. The population of the Caspian-Azov Sea region migrates to Tunisia, and that of Turkestan to India (cf. maps). Banding and recovery data are tabulated. The oldest birds are 10-11 years in Europe, 9 years in Asia, and 20-22 years in North America. Copy seen: DSI.

4668. MAYAUD, PIERRE NOËL.
Rapports scientifiques des Expéditions polaires françaises S IV 2. Activité magnétique dans les régions polaires. (Annales de géophysique, 1956. t. 12, no. 1, p. 84–101, diagrs., maps, tables.) 16 refs. Text in French. Title tr.: Scientific reports of the Expéditions polaires françaises S IV 2. Magnetic activity in the polar regions.

Data are analyzed from 52 stations, mostly located in the northern (22) and southern (11) polar areas. Two types of activity are distinguished and defined. The first type which predominates at the interior of the auroral zones is interpreted on the basis of the Chapman-Ferraro storms. Certain properties of the second type, which predominates over the rest of the globe, appear to confirm the importance of the equator in the formation of auroras and rays.

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4669. MAYAUD, PIERRE NOËL.
Terre Adélie, 1951–1952; magnétisme
terrestre, fasc. II; activité magnétique
dans les régions polaires. Paris, Expéditions polaires françaises, 1955. 128 p.
illus., maps, charts, diagrs. (Expéditions
polaires françaises. Expéditions antarctiques. Résultats scientifiques, no. S.

IV. 2). Text in French. *Title tr.:* Adélie Land 1951–1952; terrestrial magnetism, fasc. 2.; magnetic activity in the polar regions.

Magnetic activity in polar regions is analyzed using data from 49 stations above 50° lat., 38 of which are in the Arctic. A list of the stations is given together with their geographical coordinates and periods of observation (mostly 1932-33, some subsequently to 1952, or 1882/83). Maps showing the locations of the stations are also included. During 1951-52, magnetic disturbances were regularly recorded at Adélie Land during the daytime, the intensity of which increased from winter to summer. This led to the present study, and the data collected and analyzed are approximately equivalent to 100 years of recordings. Two distinct types of activity were distinguished and studied: N activity (night maximum) and J activity (day maximum). The time and space variations of each are described in detail. The marked differences between the two suggest that both cannot be attributed to the same mechanism of corpuscular origin. An attempt is made to explain the difference on theoretical grounds.

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46670. MAYER, S. W., and others. Further observations on the I<sup>131</sup> metabolism of pre-frozen thyroid slices. (Endocrinology, Nov. 1956. v. 59, no. 5, p. 586-90, illus.) 6 refs. Other authors: B. W. Dimick and F. H. Kelly.

Thyroid slices from cattle pre-frozen for two weeks at  $-16^{\circ}$  C. showed, upon incubation in a I<sup>131</sup>-containing medium, protein-bound I<sup>131</sup> primarily in the region of the follicular epithelium; when incubated at 4° C. they continued to form monoiodotyrosine until over 60 percent of the I<sup>131</sup> was protein bound.

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46671. MAYR, ERNST, 1904—. Geographical character gradients and climatic adaptation. (Evolution, Mar. 1956. v. 10, no. 1, p. 105–108.) 15 refs.

Author takes issue with the statements of Scholander (No. 42332) and points out that the so-called "climatic rules" or "ecological rules" are not laws and have many exceptions; that they are valid within species only, and that adaptations to local conditions do not play a role in "phylogenetic engineering" as claimed by Scholander. Also, their existence does not preclude the cold-adaptive function

of other factors of a physiologic or morphologic nature. Scholander's reply: No. 47842. Copy seen: DLC.

46672. MAZAROVICH, A. N. K voprosu o chetvertichnom pokrove Russkol ravniny. (Moskovskoe obshchestvo ispytatelel prirody. Būlleten', 1940. Otdel geologicheskil, t. 18, no. 1, p. 38–53, 2 tables.) Text in Russian. Summary in French. *Title tr.:* Discussion of the Quaternary cover on the Russian plain.

Contains discussion of four subjects: 1, magnitude and boundaries of glaciation (from central Russia to Fennoscandia, Pinega, Kara and Barents Seas, Novaya Zemlya, Franz Joseph Land, etc.); 2, character of glacial deposits as the evidence of changes in physical-geographic conditions and their relationship in the pre- and post-Quaternary periods; 3, climates of glacial and interglacial time indicated by changed flora, accumulation of loess, structure of alluvial terraces, large mammalian fauna above the Yarmouth Interglacial age formation; 4, epirogenic movements during the Pleistocene on the Russian plain, caused by the heavy load of ice and its consequent melting. Isostatic lifting and lowering of Scandinavia are analyzed with extension of glacial movements in other directions. The discussion is accompanied by stratigraphic and paleogeographic tables.

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46673. MAZILKIN, I. A. Mikrobiologicheskafā kharakteristika dernovolesnykh i peregnolno-karbonatnykh pochv Olekminskogo r-na fAASSR. (Akademifa nauk SSSR. fAkutskii filial, Yakutsk. Trudy 1956. vyp. 1, Materialy o prirodnykh uslovifākh i sel'skom khozfāfstve figo-zapada fAkutskof ASSR, p. 135–75, tables.) 22 refs. Text in Russian. Title tr.: Microbiological character of turforest and humus-carbonate soils in the Olekminsk district, Yakut A. S. S. R.

A schematic outline of the basic microbiological processes in these soils based on an investigation during 1952–53. Following an historical outline of Russian soil bacteriology, the author deals first with the yellow, turf-forest soils, their chemical and physical properties; bacterial components, nitrate and ammonia storage and the cellulose-splitting microorganisms. Sections from humus-carbonate soils are discussed next, as to their plant cover, chemical and physical traits, bacterial content and actions, N-fixing bacteria and cellulose-splitting micro-

organisms. The forest-meadow soils are dealt with and discussed in a similar way.

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46674. MAZILKIN, I. A. Mikrobiologicheskafa kharakteristika dernovo-lesnykh pochv fsentral'not fakutii. (Akademifa nauk SSSR. fakutskii filial, Yakutsk. Institut biologii. Trudy, 1955. vyp. 1, p. 45–73, illus., tables.) 27 refs. Text in Russian. Title tr.: Microbiological characteristics of the turf-forest soils of central Yakutia.

A study of microbiological processes in these soils (effects of humidity and temperature); intensity of organic decomposition and the qualitative composition of the microbial soil population (cellulose decomposition; ammonification and nitrification; denitrification; N-fixation, etc.); agrotechnical problems connected with the microbial activity. The three most common soil types were studied.

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MAZINA, O. I., see Rakovskii, V. E., and others. Torfianol degot' . . . 1953. No. 47507.

46675. MAZOUR, ANATOLE GRI-GOREVICH, 1900- . Finland between East and West. Princeton, N. J., Van Nostrand, 1956. xiv, 298 p. illus., ports, text maps. approx. 140 refs.

A political history of Finland, dealing briefly with Finnish-Swedish-Russian relations from about the 12th century, Finnish struggle for independence, attained in 1917, problems of the new republic; in more detail, the World War II period: war with Russia 1939-1940, alliance with Germany until 1944, then hostilities in northern Finland 1944-1945; political and economic results of the war: relations with Russia to late 1955. Northern boundary and population problems are discussed. Appended (p. 209-282) are texts of documents of Soviet-Finnish relations since 1918, including decisions on positions of the Finnish boundary in the North, Finnish rights in the Petsamo (Pechenga) region during the 1920-1925 period, displaced population, Finnish ships in the Barents Sea, etc. Copy seen: DLC.

46676. MAZUR, P. Studies on the effects of subzero temperatures on the viability of spores of Aspergillus flavus, 1; the effect of rate of warming. (Journal of general physiology, July 1956. v. 39, no. 6, p. 869–88, illus. tables.) 23 refs.

Survival of spores of this mold suspended in distilled water and rapidly cooled, down to —75° C. was found to depend primarily on the rate of subsequent rewarming: the quicker the latter, the higher was the survival rate. Lethal effects of slow warming were more pronounced between about —20° and 0° C. than between —70° and —20° C. The harmful effects of slow warming were also noted with horse serum, sucrose or salt solutions used for suspending the spores.

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46677. MAZYRO, M. A. O pochvennykh issledovanifakh v fsentral'nof chasti Khibinskogo massiva. (*In:* Khibinskie apatity, 1933. t. 6, p. 247–49.) Text in Russian. *Title tr.:* Soil studies in the central part of the Khibiny massif.

Deals with the morphological study of local soil and its importance to agriculture in a rapidly developing industrial region. 265 ground sections were made and 500 samples analyzed. The studies were coordinated with vegetation, ground elevation, character of river bank deposits, forestation, soil types for grass, and reclamation of marshlands for cultivation. Additional studies are proposed in fields of chemical treatment, dynamics of soil processes, including concentration of hydrogen (pH), assimilation with phosphoric acid and nitrates, etc.

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46678. MAZZEO, F., and others. Studio anatomo-patologico dei principali organi nella ibernazione sperimentale. (Minerva anestesiologica, Mar. 1955. anno 21, no. 3, p. 67–69, illus.) Text in Italian. Summary in English. Other authors: G. Brancadoro, and R. Cuoculo. Title tr.: Anatomic-pathological study of the principal organs in experimental hibernation.

The organs of dogs made hypothermic to 30°—18° C. were investigated. The more serious and lasting lesions were found in the splanchnic organs; histological changes were much more profound in animal cooled to 18° or 24° C.

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MAZZEO, F., see also Visconti, S., and others. Primi studi . . . ibernazione sperimentale. 1955. No. 48763.

46679. MEADE, STEPHEN J. Farthest North airdrop. (Army Information digest, Oct. 1956. v. 11, no. 10, p. 24–30, illus.) The joint U. S.-Army-Air Force exercise Arctic Night is described. In Mar. 1956, 700 paratroopers of the 82nd Airborne Division made a tactical drop at Wolstenholme Fjord, North Greenland, (76°30′ N. 69° W.) 809 miles from the North Pole. Simulated attack operations were carried out. The exercise demonstrated that airborne units, properly trained and equipped, can operate in the Arctic for indefinite periods of time.

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46680. MEDNIKOV, B. M., and V. G. PROKHOROV. Novyl vid Cyclopteropsis (Pisces, Cyclopterinae) v Beringovom more. (Akademiß nauk SSSR. Doklady, Nov. 21, 1956. v. 111, no. 3, p. 717–19, illus.) 2 refs. Text in Russian. Title tr: A new species of Cyclopteropsis (Pisces, Cyclopterinae) from the Bering Sea.

C. inarmatus n. sp., collected in Aug. 1955 in the Olyutorsk-Navarin section of Bering Sea (60°-62° N. 170°-180° E.) is described; and its measurements are tabulated with those of a related species, C. lindbergi. Copy seen: DLC.

MEDNIKOV, B. M., see also Andrievskaîa, L. D., and B. M. Mednikov. Glubokovodnye organizmy v pitanii . . . . Oncorhynchus. 1956. No. 43662.

46681. MEDRUD, NELDER, Jr. A comparison of Bellamy and observed drifts at high latitudes. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 122–23.)

Abstract of research conducted to determine empirically the practicability of the use of the Bellamy drift computations as an aid to high latitude navigation. No results are given. *Copy seen:* DGS.

46682. MEDVEDEV, VLADIMIR MIKHAĬLOVICH, and A.A. GORDEEV. Izgotovlenie plit-obolochek bez proparivania. (Gidrotekhnicheskoe stroitel'stvo, 1956, god 25, no. 2, p. 15–18, diagrs.) 3 refs. Text in Russian. Title tr: Preparation of facing plates without steam treatment.

Composition and method are described for preparing strong, water-proof, frost resistant concrete slabs of good appearance for building facing. Highly active and fine grind cement is mixed with an optimum amount of gypsum, corresponding to amount of tri-calcium-aluminite  $(Ca_3Al_2O_0)$  in the cement, also with a small amount of calcium chloride

(CaCl) to accelerate cement hardening. Variations in physical properties with additive content is discussed and graphically illustrated, including the effects of additive (CaCl<sub>2</sub>) on compression stress limit after many periodical freezings.

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46683. MEDVEDEV, VLADIMIR MIKHAÏLOVICH, and others. Povyshenie morozostoľkosti proparennogo betona dlíž plit-obolochek. (Gidrotekhnicheskoe stroiteľstvo, Apr. 1956. god 25, no. 3, p. 15–20, 5 tables.) Ref. Text in Russian. Other authors: N. A. Vtorov and G. G. Korolev. Title tr: Increase of frost resistance of steam-treated con-

crete for facing plates.

Methods are described for improving the mechanical strength, water-proofing and, particularly, frost resistance of concrete slabs. Coordinated tests were conducted for steam treatment of concrete specimens of the same composition, also with additives in various amounts. The relation between composition of the concrete and its frost resistance is represented in tabulated test data and formulated (8 points) in conclusion. The frost resistant property of concrete may be improved with additives and a slow process of steam treatment.

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MEDVEDEV, VLADIMIR MIKHAĬLO-VICH, see also Kurinnyi, T. G., and others. Naturnye obsledovaniia "kholodnogo" betona. 1956. No. 46174.

MEDYNSKII, S., see Antonov, P. Na Chukotke. 1955. No. 43698.

46684. MEEHAN, JOHN P. Individual and racial variations in a vascular response to a cold stimulus. Ladd Air Force Base, Apr. 1955. 12 p. illus., tables. (U. S. Air Force. Arctic Aeromedical Laboratory. Project no. 7-7953; report no. 1.) 4 refs.

A comparative study of surface finger temperatures during standard cold exposure in Caucasian, Negro and Alaskan native subjects. The Alaskan natives maintained the highest temperature, the Negroes the lowest, suggesting racial differences to cold adaptation.

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46685. MEEN, VICTOR BEN, 1910—. The origin of Chubb Crater. (In: International Geographical Union. Eighth General Assembly and Seventeenth International Congress, Washington, D. C.,

Aug. 8–15, 1952. Proceedings, *pub.* 1956? p. 357–63, 6 illus., text map.) ref.

This crater in Ungava Peninsula at 61°17' N. 73°40' W. is more than two mi. in diameter, a quarter mile deep, and is encircled by a solid granite rim up to 550 ft. high. Two lesser ridges concentric to the crater occur 3,750 ft. and 6,250 ft. from the rim. Nature of the country rock and shape of the crater rule out a volcanic, glacial, or solution origin. Orientation of the jointing and the great rifts indicate a tremendous explosion, probably a meteorite fall although no fragments or buried mass have been found. meteorite probably fell in late glacial This discussion is based on obtime. servations made in 1950 and 1951 on the Ontario Museum - Globe and Mail and the National Geographic Society - Royal Ontario Museum Expeditions. cf. No. 24264, 36170, 30745.

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46686. MEGEE, MARY C. A briefly annotated bibliography of the polar regions. (Kansas Academy of Sciences. Transactions, 1955. v. 58, no. 1, p. 87–110.)

References (approx. 300) are listed, exclusively from the Geographical journal (Royal Geographical Society, London), v. 83–118, 1935–1952, and the Geographical review (American Geographical Society, New York), v. 26–42, 1936–1942. Annotations average about 10 words in length. References are grouped alphabetically by author under broad subject headings: polar people, flora, fauna, geology, glaciology, meteorology, topography, oceans, expeditions, survey, instruments, social sciences, book reviews.

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46687. MEÏSTER, L. A. O nedostatkakh klassifikatsii podzemnykh oblasti rasprostranenia mnogoletnemerzlykh gornykh porod. (In: Akademis nauk SSSR. Institut merzlotovedenifa. Materialy k osnovam uchenifa o merzlykh zonakh zemnol kory, 1955. vyp. 2, p. 59-64.) 4 refs. Text in Russian. Title tr.: Shortcomings in the classification of ground water in perma-

"Principles of classification applied by Tolstikhin and others to ground water in permafrost are considered inadequate. They ignore the part played by geological conditions in the formation and circulation of ground water, and consider ground ice as a modified form of liquid only. Sub-, intra-, and suprapermafrost waters are also deficient as terms, because the effects of permafrost vary in moist soil and rocks as well as in strata containing bound water only. A revised classification should be based on geocryological concepts of the formation, circulation, and chemical interaction of ground water, and should consider ground ice as a solid, not as a modified liquid form."—SIPRE.

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46688. MEÏSTER, L. A. O vzaimosvíkizi teorii i praktiki v razvitii geokriologii. (In: Akademiía nauk SSSR. Institut merzlotovedeniía. Materialy k osnovam ucheniía o merzlykh zonakh zemnoľ kory, 1956. vyp. 3, p. 5–17.) 3 refs. Text in Russian. Title tr.: Interrelation between theory and practice in the development of geocryology.

The development of permafrostology in the U.S.S.R. since the mid-19th century is briefly described, and theoretical and practical problems influencing progress of the science are discussed. Construction of the Trans-Siberian Railroad, and of highways and buildings resulted in intense study of permafrost. especially after the establishment of the Commission on Permafrostology in 1930. Considerable data on the distribution of permafrost and its physical and mechanical properties were collected during 1927-1941. Theoretical generalization of practical results leads to development of a single theory on geocryology and two practical methods for construction with preservation or liquidation of the permafrost conditions. Copy seen: DLC.

MEÏSTER, L. A., see also Shvetsov, P. F., and L. A. Melster. Dozhdeval'no-infil'tratsionnyl sposob protaivania . . . 1956. No. 47990.

MEL', M. I., see Akademiâ nauk SSSR. Institut geografii. Voprosy izucheniâ snega . . . 1955. No. 43525.

46689. MELANDER, AXEL LEONARD, 1878— . A review of the North American species of Nemotelus. (Psyche, Oct.—Dec. 1903. v. 10, no. 325–26, p. 171–83, plate 4.)

Contains a key to the species and descriptions of 19, five of them new, and two from the North: N. canadensis (Hudson Bay region, Fort Resolution), and N. carneus (St. Martin Falls, Albany River, Hudson Bay). Copy seen: DA.

46690. MELANDER, AXEL LEONARD, 1878— . Ten new species of Empididae; Diptera. (Psyche, Mar.-June 1945. v. 52. no. 1-2, p. 79-87.)

Includes descriptions of Anomalempis archon n. sp. from Katmai, Alaska (Prof. J. S. Hine) 1917, and Gloma pectinipes n. sp. from Seward and Anchorage, collected by Dr. Aldrich. Chersodromia insignila (not arctic) is compared with Coloboneura nubifera from Alaska.

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46691. MELANDER, RICHARD. Genom Ume älfs dalgång till Atlanten. (Svenska turistföreningen, Stockholm. Årsskrift, 1894, p. 15–40, illus.) Text in Swedish. Title tr.: Via the Ume valley to the Atlantie.

Describes an autumn journey across Swedish Lapland when the stream was the best highway, and travelers stayed at private homes. Copy seen: DGS.

46692. MEL'CHINOV, M. S. [Razmnozhenie i gnezdovanie sibirskoľ kedrovki. Gnezdovanie ptiťs; obzor postupivshikh v redakťsiú stateľ i zametok.] (Priroda, Nov. 1956. god 45, no. 11, p. 103.) Text in Russian. Title tr.: Breeding and nesting of the Siberian nuteracker. Nesting of birds, a review of papers and notes received by the editorial board.

Describes four nests of Nucifraga found by the writer in the Momsk and Uchur regions of Yakut A. S. S. R. in 1955 and 1956. Two were on the ground and two in trees. This note has no formal title. Copy seen: DLC.

46693. MELEKHOV, IVAN STEPANO-VICH. O putākh sodelstvifā estestvennomu vozobnovlenifā lesa. (Lesnoe khozfalstvo, Aug. 1956. t. 9, no. 8, p. 20–26.) Text in Russian. *Title tr.*: Means of promoting natural reforestation.

The five-year plan 1956-1960 for reforestation of 3,800,000 hectares in northern European U. S. S. R. is described, the area including the Arkhangel'sk and Komi districts. The methods proposed are: controlled forest cutting; artificial reforestation (clearing, planting, seeding, protection from animals, soil improvement, etc.); and a combination, most favored, of artificial and natural methods. The artificial method includes setting up a plot for seeding, fertilizing, ground preparation, etc., experiments, directed toward different types of trees.

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46694. MELEKHOV, IVAN STEPANO-Povyshenie produktivnosti severnykh lesov. (Lesnoe khozfalstvo, Mar. 1956. t. 9, no. 3, p. 7-12.) Text in

Russian. Title tr.: Increase in produc-

tivity of the northern forests.

Higher productivity and further development of the forest industry are discussed, particularly in the Arkhangel'skaya Oblast'. Protective action is suggested against fire, insects, fungi, and for preservation of young trees; also the rational use of lumber and by-products. Various measures are recommended: improvement in growth of trees: change in species, selection of suitable foliate types, soil improvements, better forest care: cleaning, trimming, cutting, etc. Melioration in drainage is proposed by reclaiming forested marshland, draining neighboring marshes, improving the existing system of springs, brooks, trenches, etc. The results of earlier work in this and other regions are analyzed.

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46695. MELIN, RAGNAR, 1890- . Forecasting spring run-off of the forest rivers in north Sweden. [Stockholm, p. 118-25, diagrs. tables. (Sweden. Meteorologiska och hydrolo-

giska institutet. Meddelanden. Serien uppsatser, no. 14.)

The relation between snow cover and spring run-off was studied for six forest or coastal rivers in northern Sweden. Correlation coefficients are calculated between river discharge and data obtained from precipitation gauges for snow cover. On the average the coefficient between snow cover and maximum run-off in all the areas studied was 0.81 ranging from 0.60 to 0.96. Copy seen: DWB.

46696. MELIN, RAGNAR, 1890-Run-off in Sarek. (Arkiv för geofysik, 1954. bd. 2, nr. 7, p. 139–49, 3 illus., 3 diagrs., text map, 2 tables.) 3 refs.

At Litnok on Rapaälven, which drains the Sarek mountain district of northern Sweden, temperature, humidity, wind, precipitation, and river water level are automatically recorded. Stream volume, its variations, relation to temperature and precipitation, and average precipitation of the region are determined. Rivers of northern Sweden which rise in the mountain region have high run-off because these ranges are open to moist winds from the Atlantic. Copy seen: DGS.

46697. MELIN, RAGNAR, 1890- .

Sveriges vattenkrafttillgångar; sammanfattning av resultaten i "Förteckning över Sveriges vattenfall" för Norrlands älvar och Dalälven jämte preliminär beräkning av vattenkraften i hela landet. Stockholm, 1930. 27 p. diagrs., maps, 12 plates (5 fold.), tables. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, bd. 5, no. 6.) Text in Swedish. Summary in English. Title tr.: Swedish water-power resources, summary of results in "Survey of Swedish falls" for rivers of Norrland and Dal River, with preliminary estimate of water power in the entire country.

Contains progress report of a survey of waterpower resources begun in 1911. The survey was restricted to basins covering at least 1,000 sq. km. in northern Sweden and 500 sq. km. elsewhere. It was expected to be completed in 1935. The estimates are based on survey data and current-meter measurements. Available waterpower is tabulated, graphed, and mapped; 38 photos. of power sites are Copy seen: DWB.

included.

46698. MELIN, RAGNAR, 1890- . Vattenföringen i Sveriges floder. Stockholm, 1954. 287 p., charts, tables. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, ser. D, nr. 6.) Text in Swedish. Summary in English. *Title tr.:* The discharge in Swedish rivers.

A comprehensive work which tabulates run-off data from 198 stations covering 51 river basins including northernmost Sweden. Includes mean values for the individual years, summers, winters and months. Most of the data cover intermittent periods from 1900 through 1953, the longest sequence 1907-1937, the shortest 1944–1950. The climatic factors which affect run-off are discussed for north and south Sweden, with the water balance (precipitation, evaporation and run-off) estimated for various sections.-From Meteorological abstracts & bibliography, June 1956. v. 7, no. 6, p. 729.

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46699. MELIN, RAGNAR, 1890- . Yttemperaturen i svenska vattendrag. Stockholm, 1938. 17 p. illus., graphs, maps, tables. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, bd. 7, no. 4.) Text in Swedish. Summary in English. Title tr.: The surface temperature in Swedish water-courses.

The data given were obtained from 71 gauging stations (11 in the far North) during 1909–1935. The distribution of stations, the mean temperatures for May, July, and October, and the dates of maximum temperatures are mapped. Monthly mean water temperatures are tabulated for each station.

Copy seen: DWB.

**46700. MELLOR, R. E. H.** A note on Soviet arctic research. (Geographical studies, 1956. v. 3, no. 1, p. 64–67, text

map.)

Based on Arctic Bibliography, No. 35862, note on establishment of the drifting ice-floe stations and research in the Arctic Basin on submarine topography, water temperature, fauna, ice formation and movement, ice islands, water circulation, meteorology, and terrestrial magnetism. Copy seen: DLC.

46701. MELLQUIST, CURT, and T. SANDBERG. Odontological studies of about 1,400 mediaeval skulls from Haland and Scania in Sweden and from the Norse colony in Greenland, and a contribution to the knowledge of their anthropology. (Odontologisk tidskrift, 1939. v. 47, no. 3 B (Suppl.), p. 1–83, illus., tables.) Approx. 230 refs. Summary by the authors in German appeared in: Deutsche Zahn-, Mund- und Kieferheilkunde, 1940. Bd. 7, Heft 1, p. 1–8.

Contains in part 1 (p. 5-47) an odontological study of 10th-16th century skulls. 102 of them from Norse settlements in West Greenland: the material represents both sexes and various age groups. Caries, marginal atrophy, abrasion, occlusal relation, etc., were examined frequently with the aid of x-rays. The relation between diet and caries is discussed and the complete absence of the latter from the Greenland material pointed out. The differences in diet. animal in Greenland, largely cereal in Scandinavia, is considered responsible for these conditions. Pt. 2 (p. 48-74) deals with the anthropology of 374 skulls (or parts of them) from Sweden and 54 from Greenland Norsemen, with comparison between the two groups.

Copy seen: DNLM.

MEL'NIKOV, G. I., see Antropova, V. V., and V. G. Kuznetsova. Chukchi. 1956. No. 43701.

MEL'NIKOV, VASILIĬ, see Babenko, A., and V. Mel'nikov. Vertolety . . . 1956. No. 43798.

MELON, J. M., see Cahn, J., and others. Métabolisme cardiaque . . . hibernation . . . 1956. No. 44233.

46702. MELROSE, DENNIS GRAHAM. Cooling of the whole organism. (Lectures on the scientific basis of medicine 1954-55, v. 4, p. 252-65, illus.) 26 refs.

A discussion of the difference between cold and hypothermia; O<sub>2</sub>-consumption, respiratory and pulse rate and blood pressure as dependent on body temperature; the effects of controlled respiration; cardiac arrhythmias during hypothermia; pharmacologically induced hypothermia; clinical applications.

Copy seen: DNLM.

46703. MELROSE, DENNIS GRAHAM. Uvod u opću hipotermiju. (Vojno sanitetski pregled, 1955. god. 12, broj 11-12, p. 632-37, illus.) 25 refs. Text in Serbo-Croatian. *Title tr.:* Introduction to general hypothermia.

Contains an outline of physiology of hypothermia, including 0<sub>2</sub>-consumption, respiratory and pulse rate, and blood pressure, followed by information on controlled respiration in hypothermia, cardiac arrhythmias, pharmacologically produced "hibernation" and clinical application.

Copy seen: DNLM.

MELROSE, DENNIS GRAHAM, see also McMillan, I. K. R., and others. Hypothermia . . . blood gas and electrolyte changes . . . 1955. No. 46546.

46704. MELTZER, HERBERT, and others. Echinococcosis in North American Indians and Eskimos. (Canadian Medical Association journal, July 1956. v. 75, no. 2, p. 121–28, illus., tables, map.) 51 refs. Other authors: L. Kovacs, T. Orford, and M. Matas.

Following a review of North American literature on this disease, the morphology and biology of the parasite, the incidence and distribution of the disease, its pathology, and clinical, radiological and laboratory aspects are discussed. 180 cases are reported from Alberta, the Yukon and the Northwest Territories where the disease is endemic among the native population. The problems of therapy, including surgery are discussed. Copy seen: DNLM.

MENDEL, D., see Grayson, J., and D. Mendel. The distribution and regulation of temperature . . . rat. 1956. No. 45211.

46705. MENĪAĬLOV, ALEKSANDR ALEKSEEVICH. Defatel'nost' Kamchatskoī vulkanologicheskoī stantšii v 1947 g. (Akademifā nauk SSSR. Kamchatskafā vulkanologicheskafā stantšifā, Būlleten', 1949, no. 16, p. 22–25, illus.) Text in Russian. *Title tr.:* Activities of the Kamchatska Volcanological Station in 1947.

Reports results of observations carried out at Klyuchi, also in special huts on the slopes of Shiveluch and Klyuchevskiy volcanoes and during seven field trips of station personnel. Shiveluch continued to erupt; all other active volcanoes displayed only fumarolic activity; six volcanic and six tectonic earthquakes were registered.

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46706. MENĨAĬLOV, ALEKSANDR ALEKSEEVICH. Defatel'nost' Klûchevskogo vulkana v 1946–1948 gg. (Akademiâ nauk SSSR. Kamchatskafa vulkanologicheskafa stanfsifa. Bfülleter', 1953, no. 17, p. 24–26, table.) Text in Russian. Title tr.: Activity of Klyuchevskiy Volcano in 1946–1948.

Except for the cruption of a new lateral cone Apakhonchich in Oct. 1946, this volcano's activity was limited to ejection of vapor; data of its fumarolic activity in 1947 are given in tabular form; ascent of its summit in Aug. 1948 by a party under S. I. Naboko is noted. Cf. No. 46917. Copy seen: DLC.

46707. MENÑALOV ALEKSANDR ALEKSEEVICH, and others. Izverzhenie Shivelucha letom 1946 g. (Akademíña nauk SSSR. Kamchatskaña vulkanologicheskaña stanfsiña. Bûlleten', 1949, no. 16, p. 3-11, illus.) Text in Russian. Other authors: S. I. Naboko, N. D. Tabakov, L. A. Basharina. Title tr.: The eruption of Shiveluch in summer 1946.

Contains description of the eruptive activity of this volcano and of its lateral vent Suyelich during Aug.—Nov. 1946, based chiefly on the authors' long distance observations from the Volcanological Station in Klyuchi and on their three trips to Suyelich.

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46708. MENTATLOV, ALEKSANDR ALEKSEEVICH. Izverzhenie vulkana Shiveluch v 1944–1948 gg. (Akademifa nauk SSSR. Kamchatskafa vulkanologicheska a stantsifa. Bülleten', 1953, no. 18, p. 3–24, illus., diagrs.) 14 refs. Text in Russian. *Title tr.:* Eruption of Shiveluch Volcano in 1941–1948.

After 15 years of only fumarolic activity, signs of eruption were noticed on Shiveluch in Nov.-Dec. 1944; a new lateral cone, Suyelich formed on the southeast slope, and by the end of 1947 the volcanic matter ejected amounted to 125 million cu. m. From Sept. 1946, the eruption was systematically observed by the Volcanological Station, and the day-to-day conditions are diagrammed. Tabular data on lava temperature and chemical composition of fumarole gases are given. Copy seen: DLC.

46709. MENſAĬLOV, ALEKSANDR ALEKSEVICH. Sostoſanie vulkana Tolbachik v 1946–1948 gg. (Akademiſa nauk SSSR. Kamchatskaſa vulkanologicheskaſa stantsiſa. Bſūlleten', 1953, no. 17, p. 41–45, illus.) 8 refs. Text in Russian. Title tr.: The state of Tolbachik Volcano in 1946–1948.

Account based on periodic observations of this volcano from the village of Kozyrevsk (40 km. distant), also on visits to its foothill, and an ascent to the summit on Aug. 6–7, 1948 with descent into the crater to its bottom. Except for a brief ejection of ashes on Feb. 9, 1947, the volcano's activity was manifested only in ejection of vapors.

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46710. MENĪAĬLOV, ALEKSANDR ALEKSEEVICH. Vulkan Sheveluch; ego geologicheskoe stroenie, sostav i izverzhenifa. Moskva, Izd-vo Akademii nauk SSSR, 1955. 264 p. tables, illus., diagrs., plans. (Akademifa nauk SSSR. Laboratorifa vulkanologii. Trudy, vyp. 9.) Over 175 refs. Text in Russian. Title tr.: Shiveluch Volcano; its geological structure, composition and eruptions.

Monographic description of one of the main volcanoes of Kamchatka (56°39′ N. 161°18′ E.), in three parts: geological and petrographic outline (p. 11–114); current activity and eruptions in 1944–48 (p. 115–99); evolution of the magma and of the eruptions (p. 201–256). Shiveluch, it is concluded, is the "ripest" among the active volcanoes in Kamchatka, and its activity is declining. This study is based on extensive literature (over 175 items, Russian and foreign, are listed), on unpublished results of Soviet explorations and eye-witness reports, as well as the author's own long-distance observations

from Klyuchi village and his investigations on four trips to the volcano during 1946-48. A chronology of the eruptive activity of Shiveluch in 1946-48 is given (p. 126-46); and its exploration is traced (p. 5-7) from the time of Krasheninnikov. Copy seen: DLC.

MENKEL', M. F., see also Kritskil, S. N., and M. F. Menkel'. Zadachi gidrologii . . . 1956. No. 46132.

46711. MENNELLA, CRISTOFARO. L'Anno Geofisico Internazionale, 1957– 1958. (Universo, Sept.-Oct. 1956. Anno 36, no. 5, p. 745-54.) Text in Italian. Title tr: The International Geophysical Year, 1957-1958.

Contains a general summary of the scientific research program and some of the specific problems to be studied; the Italian program. Copy seen: DGS.

46712. MENOVSHCHIKOV, GEORGIĬ ALEKSEEVICH. Ėskimosy. (*In:* Akademifa nauk SSSR. Institut ėtnografii. Narody Sibiri, 1956. p. 934–49, illus.) 13 refs. Text in Russian. *Title tr:* Eskimos.

Describes the Asiatic Eskimos (1,292 in 1926) living along the coast of Chukotka from the Bering Strait to the Zaliv Kresta and on Vrangelya Ostrov. Their main settlements are Naukan, Chaplino, Sireniki and Uėl'kal'. Their past distribution, cultural, linguistic and ethnographic ties with the Chukchis, archeology and history are sketched. Their native economy and material culture are described: walrus hunting, sealing and whaling, hunting techniques and equipment (spear and harpoon with detachable bone or, rarely, iron head; inflated seal skin buoys, etc.), fishing, hunting (fox and polar fox), food (reindeer, sea mammals, sea weeds, mainly sea-kale). Their means of transportation are the kayak, baidara, dog-drawn sledges, and the kanrak, a hand-pulled short sled with walrus tusk runners known throughout the ancient Bering Sea culture area. Their dwellings are tents, mud-houses, and frame houses introduced in the 1890's by American traders. Their clothing, including bird parkas, and tattooing practised till the early 20th century are mentioned. The scant knowledge of their past social organization is noted and the ethnographic and folkloristic leads surveyed: traces of matriarchate surviving to the 20th century, importance of women in social and religious life,

exogamy, religious beliefs (animal and spirit worship, rites and festivals, shamanism). Communal and private ownership, trade and barter, the Eskimos' role as middlemen in the trade relations between Americans and Chukchis are also mentioned. The cultural and economic advances under the Soviet regime are emphasized: education, administration, creation of kolkhozes and motorized hunting and trapping stations, etc. The use of materials by the late N. B. Shnakenburg is acknowledged.

Copy seen: DLC.

46713. MENTZE, ERNST. Havets Danmark. Denmark and the sea. København, P. Haase, 1952. 96 p. illus., ports. Text in Danish, and by James R. White, in English.

A picture book on Danish ships, large and small, seamen's training and living conditions, at home and at sea. Includes (p. 57, 82-84, etc.) ships on service in Greenland waters and harbors.

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46714. MENZI-BILAND, ARTHUR. Der Anteil der Schweizer an der Erforschung Grönlands, I; Dänische staatliche Expeditionen nach Nord-Ost-Grönland unter der Führung von Dr. Lauge Koch (1926)-1932-1954.Holzminden, Weserland-Verlag, 1956. 24 p. table, map on cover. (Polarforschung, 1 Beiheft 1956.) Text in German. Title tr: Participation of the Swiss in the exploration of Greenland, I; Danish State Expeditions to Northeast Greenland headed by Dr. Lauge Koch (1926)-1932-1954.

Since 1932, 67 Swiss scientists and assistants have taken part in Dr. Lauge Koch's Greenland expeditions, and seven more have participated in working up their scientific results. These 74 individuals are listed and the localities, dates and nature of their work are noted. Based on extensive literature (not listed) and on private correspondence. The publication is favorably reviewed by Frédéric Heinis in Geografica Helvetica, 1956, no. 4, p. 270–71.

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46715. MERCANTON, PAUL LOUIS, 1876— . Le premier emploi de la photogrammétrie. (Journal of glaciology, Mar. 1956. v. 2, no. 19, p. 645.) Ref. Text in French. *Title tr.:* The first use of photogrammetry.

Contains correction to statement by R. Finsterwalder (Journal of glaciology, Apr. 1954. v. 2, no. 15, p. 306-315) on

use of ground photogrammetry for glacier surveys in the outer Pamirs (Central Asia) in 1913. This method had been used in 1909 on an outlet glacier of the inland ice in the Umanak district of West Greenland by Alfred de Quervain, also by the author in 1912 during the Schweizerische Grönlandexpedition, led by de Quervain.

\*\*Copy seen:\*\* DGS.\*\*

46716. MERCER, JOHN HAINS-WORTH, 1922— . Geomorphology and glacial history of southernmost Baffin Island. (Geological Society of America. Bulletin, May 1956. v. 67, no. 5, p. 553–70, 12 illus. on 4 plates, 3 text maps, cross-sections, table.) 42 refs.

This peninsula is a tilted peneplane, probably uplifted in late Pliocene, with a drowned coast along Hudson Strait and an escarpment facing Frobisher Bay. This latter coast is described from the head of the Bay to Jackman Sound near the southeast end of the peninsula; also the strand lines found up to 1425 ft. Most of the larger landforms were probably forming during the Pleistocene. In each glacial age the northwest part of the peninsula was apparently buried by an ice sheet before cirques could form, while in the southeast, cirque erosion advanced to maturity. In late Wisconsin the area was greatly depressed, then as sea level fell, the strand lines formed. Present small icecaps (Grinnell and Terra Nivea) are the rejuvenated relics of a larger ice sheet which wasted away, except on the highest parts of the peninsula, during a warm period in the recent past. Copy seen: DGS.

46717. MERCER, JOHN HAINS-WORTH, 1922— . The Grinnell and Terra Nivea ice caps, Baffin Island. (Journal of glaciology, Mar. 1956. v. 2, no. 19, p. 653–56, 4 illus., 2 text maps.) 5 refs.

Contains results of the author and W. Blake's investigations in 1952, and author's in 1953, on the "Kingaite Peninsula" (approx. 62°30′ N. 68° W.). The icecaps are the southernmost of a series on the eastern side of Ellesmere, Devon, and Baffin Islands. Highest point on Grinnell is 870 m. (2,854 ft.); Terra Nivea appears similar. Both icecaps are thin, general tendency is for slight retreat, but one large glacier of Grinnell is advancing. Economy of Grinnell is discussed. Equilibrium line is considerably lower than on the Penny

icecap to the north. Both firn and superimposed ice are important in the economy. **Copy seen:** DGS,

46718. MEREDITH, L. H., and others. Cosmic-ray intensity above the atmosphere at high latitudes. (Physical review, July 1955. v. 99, no. 1, p. 198–209, text map, diagr., 6 graphs, 6 tables.) 33 refs. Other authors: J. A. Van Allen and M. B. Gottlieb.

"The total charged particle cosmic ray intensity above the atmosphere has been measured with thin-walled Geiger counters . . . carried in balloon launched rockets The respective values of unidirectional particle intensity averaged over the upper hemisphere are:  $\overline{J}=0.44\pm0.01$ .  $\leq 0.50 \pm 0.05$ ,  $\leq 0.50 \pm 0.50$ , and  $= 0.48 \pm$ 0.01 (cm<sup>2</sup> sec sterad)-1. These results are consistent with the complete or nearly complete absence of primary cosmic rays having a magnetic rigidity less than 1.7 x 109 volts."-Author's Launchings were made off abstract. southern Newfoundland, and in northernmost Baffin Bay between 77°21'-31' N. 73°29'-30' W., Aug. 24-Sept. 3, 1952. Two further rockoon flights, with identical apparatus, made in 1953 off southern Labrador and southern Baffin, are reported in No. 46719. Copy seen: DLC.

46719. MEREDITH, L. H., and others. Direct detection of soft radiation above 50 kilometers in the auroral zone. (Physical review, Jan. 1955. v. 97, no. 1, p. 201–205, 4 graphs, 3 tables.) 7 refs. Other authors: M. B. Gottlieb and J. A. Van Allen.

Two high-altitude rocket flights of thin-walled Geiger tubes were launched from U. S. Coast Guard icebreaker Eastwind, July-Aug. 1953, at geomagnetic latitudes 64° and 74° N., geographic location 53°08′ N. 54°45′ W. off southern Labrador, and 62°30.5′ N. 64°13.5′ W. off southern Baffin. A considerable intensity of soft radiation was encountered above 50 km. altitude. No such radiation was found in flights of identical equipment made in 1952 at geomagnetic latitudes 88.5° and 55.6° (cf. No. 46718). The radiation is tentatively interpreted as the high-energy tail of the auroral spectrum. It may contain electrons.—From author's abstract.

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**46720. MERISUO, AIMO K.** Das Männchen von *Pemphredon flavistigma* Thoms. (Hym., Sphecidae) gefunden.

(Suomen hyönteistieteellinen aikakauskirja, 1936. v. 2, no. 3, p. 120–23, 4 illus.) Text in German. *Title tr.:* The male, of *Pemphredon flavistigma* Thoms. (Hym.,

Sphecidae) is found.

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Contains a description of male specimens, a key for separating this species from two others closely related (P. lugubris and P. montanus), and a list of localities, including Rovaniemi (66°32′ N.) in northern Ostrobottnia.

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MERRICK, HUGH, see Leithäuser, J. G. Ufer hinter dem Horizont . . . 1953, 1955. No. 46301.

**46721. MERRILL, C. L.** Notes on Aklavik relocation project, 1954. Abstract. (Canadian geographer, 1956. no.

7, p. 27.)

From Apr. to Aug. 1954 a team of five engineers and three specialists in geology and geography investigated possible sites for a new Aklavik on the Mackenzie delta. Location 33 air miles east of present town was selected. Early start of survey permitted examination of each site during winter, break-up, and summer conditions. Aerial reconnaissance was made by helicopter; ground survey was done by tractor, dog team, and boat. Various tests made on the sites are noted.

\*\*Copy seen:\*\* DNG.\*\*

MERRILL, GEORGE PERKINS, 1854–1929, see Clarke, F. W., and G. P. Merrill. On nephrite and jadeite. 1888. No. 44386.

46722. MERTIE, JOHN BEAVER, 1888— . The Paleozoic geology of interior Alaska. (Washington Academy of Sciences. Journal, Feb. 4, 1926. v. 16,

no. 3, p. 78-79.)

Abstract: The oldest rocks in Alaska comprise a group, known collectively as the Birch Creek schist of pre-Ordovician age: overlaying them is a great thickness of slate, known as Tatalina group and including lower and middle Ordovician Middle Silurian rocks are widespread and form one of the best known markers in the Paleozoic section (Yukon-Tanana region). Overlaying them are Devonian rocks (granitic, sandstone and slate). The carboniferous rocks include basal sandstones and shales known as Noatak, Lisburne and chert formations. A regional uplift of Alaska began in late Carboniferous time culminating perhaps in the late Triassic. Another great elevation of interior Alaska occurred in Jurassic time. Copy seen: DLC.

46723. MERTIE, JOHN BEAVER, 1888- . The Pre-Cambrian sequence of Alaska and Yukon Territory with particular references to the Pelly gneiss. (Washington Academy of Sciences. Journal, July 19, 1929. v. 19, no. 13, p. 288-89.)

Abstract: deals with present subdivision of Precambrian sections of Alaska (Pelly gneiss, undifferentiated schists of igneous origin and Birch Creek schist of sedimentary origin), and of the Yukon (Pelly gneiss, amphibolites, sericites and chlorite schists and Nasina series); notes distribution of Pelly gneiss and other related rock formations.

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46724. MERTIE, JOHN BEAVER, 1888— Repeated stream piracy in the Tolovana and Hess River basins, Alaska. (Washington Academy of Sciences. Journal, Feb. 4, 1919. v. 9, no. 4, p. 109–110.)

Contains discussion of stream piracy when Livengood Creek, a tributary of the Tolovana River, stole the headwater tributaries of the south fork of the Hess River; and subsequently when the same process was repeated under different physiographic conditions, whereby the second stream recovered a considerable proportion of its former drainage. The present watershed therefore represents the third recognizable period of stability.

Copy seen: DLC.

46725. MERYMAN, HAROLD THAY-ER, 1921— . Mechanics of freezing in living cells and tissues. (Science, Sept. 1956. v. 124, no. 3221, p. 515-21.) 40 refs.

Contains an outline of "an integrated hypothesis of the mechanism of biological freezing and the known means of preventing otherwise inevitable damage." The physical principles of ice crystal nucleation, growth and size; recrystallization; freezing of cellular systems (slow freezing, rapid freezing); practical application of freezing for preservation; storage and thawing of frozen material are discussed, and systematized from the work of the author and others.

Copy seen: DNLM.

46726. MESCH, BORG. Förstabestigningen av Nallo. (Till fjälls. Svenska fjällklubbens årsbok 1955. Årg. 27, Spring 1956, p. 16–21, illus.) Text in

Swedish. Title tr.: The first ascent of Nallo.

Describes climb by the writer and son in July 1927, of Nallo (about 1,540 m.) in the Kebnekaise (67°53′ N. 18°33′ E.) region, north Sweden.

Copy seen: SPRI.

MESCHIA, G., see Giustina, G., and G. Meschia. La regolazione del pH nell'organismo in ipotermia. 1956. No. 45128.

MESHCHERÍAKOV, ÍÚ. A., see Obruchev, S. V. Spravochnik puteshestvennika... 1949–50. No. 47123.

MESHKOV, N., see Kuvshinov, ÎA., and N. Meshkov. Uluchshit' ispol'zovanie traktorov v zimnee vremîa. 1956. No. 46180.

MESHKOVA, T. P., see Savkina, Z. P., and T. P. Meshkova. Opyt posadki zashchitnykh lesnykh polos . . . 1956. No. 47812.

METALLI, PIETRO, see Arezio, G., and others. Azione del citocromo C. . . 1956. No. 43728.

METALLI, PIETRO, see also Arezio, G., and others. Azione del freddo . . . 1956. No. 43729.

METALLI, PIETRO, see also Arezio, G., and others. Azione dell' A. T. P. . . . 1956. No. 43730.

METALLI, PIETRO, see also Arezio, G., and others. Studio sull'ipotermia ipoossica . . . 1956. No. 43732.

46727. METCALF, WILLIAM GER-RISH, 1918— . On the formation of bottom water in the Norwegian Basin. (American Geophysical Union. Transactions, Aug. 1956. v. 36, no. 4, p. 596-600, diagrs., table.) Issued also as Contribution no. 739, Woods Hole Oceanographic Institution.

Oceanographic data collected in the central areas of the Norwegian Sea during Mar.-Apr. 1951 are presented and analyzed. The data generally support earlier theory that this water is formed at the surface between Svalbard and Iceland, and is by surface water cooled during March-early May. It is suggested however that this relatively heavy water moves to deeper layers by flow along isopycnal surfaces, which may be discontinuous. The earlier theory, that surface water reaches the bottom by

means of the gradual overturning of the water column to produce homogeneity, is not sustained. **Copy seen:** DLC.

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METCALF & EDDY, see Eddy, H. P. Development of designs for prefabricated arctic building . . . 1948. No. 44721.

46728. METEOROLOGICAL MAGAZINE. Extension of area forecasts for shipping and a new service for ships sailing from London. (Meteorological magazine, Feb. 1956. v. 85, no. 1004, p. 59.)

From Nov. 1, 1955, the Atlantic weather bulletin transmitted from Britain has included forecasts for the Denmark Strait-North Iceland area, giving surfacewind force and direction, also air temperature when expected to be below freezing. Importance of such forecasts for trawlers is stressed. Loss of Lorella and Roderigo in Jan. 1955 in a northeast gale with persistent low temperatures is attributed to ice accumulation on the superstructures. Copy seen: DWB.

46729. METEOROLOGY, climatology, hydrology, oceanography, in the Soviet Union, n. p., n. p., [1953?] 4 p. l., 121 l.

Approx. 450 references, primarily to Russian literature, are listed alphabetically by author under broad subject headings. The references contain brief abstracts or a source for an abstract. A location symbol for the original item is also included. *Copy seen:* AMAU.

46730. METLAKAHTLA, ALASKA, WILLIAM DUNCAN MEMORIAL CHURCH. A short story of the Metakatla Christian Mission. Palo Alto? Calif., 1954. 32 p. illus.

Contains a brief biography, by Ben L. Myers, of William Duncan, lay missionary to the Tsimshian Indians, and a brief history, by E. D. Kohlstedt, of the Metlakahtla Indian community founded by Duncan near Prince Rupert, B. C., in 1857 and transferred to Annette Island near Ketchikan, Southeast Alaska in 1887. An evaluation of this undenominational community is made by its Trustees with notes on its present appearance and activities. Copy seen: DLC.

46731. METSÄTEKNIKKOJEN KES-KUSLIITTO. Suomen metsäteknikot. Finlands forsttekniker, 1876–1949. Vammala, 1950. xviii, 865 p. illus., ports. Text in Finnish; introduction in Swedish. Title tr: Finland's foresters, 1876–1949. Contains brief history of forestry schools in Finland, eight in number, one at Rovaniemi. Roster follows of their graduates and students, with photograph, biographical and professional data, as information available after World War II. Copy seen: DLC.

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46732. MEYER, ARNO. Cod, Greenland stock; German investigations. (International Council for the Exploration of the Sea. Annales biologiques, 1954. pub. 1956, v. 11, p. 93, tables.)

Analysis of length- and age composition of German cod-landings for May 1954-Feb. 1955, from the area Cape Farewell-Cape Desolation; 1945 and 1947 year classes were predominant but the first one became very weak as compared with two preceeding years. Copy seen: DI.

46733. MEYER, ARNO. Das grönlandische Eisjahr 1955. (Wetterlotse, June 1956. Nr. 101, p. 93–97, text map.) Text in German. *Title tr:* The Greenland ice-year 1955.

Describes the influence of the cold East Greenland Current and the warm Irminger Current on Greenland coasts, and the effects of "warm" and "cold" years on Greenland fisheries six-seven years later. 1955 was the coldest year since 1924. Ice conditions encountered by fishing boats in Greenland waters are described.

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46734. MEYER, DALLAS KREMER, 1916—, and others. Water and electrolyte balance of goldfish under conditions of anoxia, cold and inanition. (American journal of physiology. Mar. 1956. v. 184, no. 3, p. 553-56, illus., tables.) 13 refs. Other authors: B. A. Westfall and W. S. Platner.

Exposure to cold (4° C.) for a period of 48 hrs. increased the water content of the body by 2.15 percent; no change took place in the absolute values of Na and K.

Copy seen: DLC.

46735. MEZHENNYĬ, A. A. Massovoe razmnozhenie babochki boſaryshniſsy A poria crataegi L. (Lepidoptera, Pieridae) v Ākutii. (Ēntomologicheskoe obozrenie, 1956. t. 35, vyp. 4, p. 803–804.) Text in Russian. Title tr: Mass increase of A poria crataegi L. population. (Lepidoptera, Pieridae) in Yakutia.

An outbreak of this butterfly pest is reported in the summers of 1954 and 1955 in the Olekma and Lena basins (Yakutsk and northward); damage done by the caterpillars to bilberry shrubs is stressed.

Copy seen: DLC.

46736. MEZHVILK, A. A. Molassy v ust'e Leny. (Akademiâ nauk SSSR. Doklady, May 11, 1956. t. 108, no. 2, p. 317-19.) 2 refs. Text in Russian. *Title tr.*: Molasse in the Lena River mouth.

Contains a study of low Permian tillites on Cape Krestyakh, and Stolb Island in the Lena delta. The various layers of these conglomerates in the 300 m. massif are noted and discussed. The upper coarse pebble layers, determined formerly as tillites are considered by the author as part of molasse strata. They belong not to the Permian but the middle Carboniferous period.

Copy seen: DLC.

46737. MICHAELSON, NEIL. Permeability and related physical characteristics in Alaskan soils under cultivation. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 130–33, 2 tables.) 9 refs.

Information is presented on texture of Alaskan soils, their permeability and its dependence on frost cracks and root channels, drainage, fertility, erosion control, role of subsoil, etc.

Copy seen: DGS.

46738. MICHEL, HANS. Geology and petrology of the Borkafjäll region, southern Swedish Lapland. Academisch Proefschrift, Universiteit van Amsterdam. Breda, Broese & Peereboom, 1950. 138 p., 24 diagrs., 2 plates, 5 tables. (Amsterdam. Universiteit. Geologisch Instituut. Mededeling no. 169.) 40 refs. Text in English. Summary in Dutch.

The region 65°07'-65°17' N. 15°10'-15°25' E. has but two farm houses, a Lapp camp, and a few narrow paths. The vegetation below ca. 800 m. is fir and birch woods, and above that generally low growth and swamps; at the higher elevations (to ca. 1,400 m.) is barren The most conspicuous geologic feature of the region is the uniform dip of schistosity and foliation. The strike is generally NNE-SSW, and the dip WNW. Dip varies, but in general it decreases The rocks, generally older eastward. than lower Silurian, are treated as seven series, with considerable attention being given to one intervening thrust zone. No fossils were found.

Copy seen: DGS.

46739. MICHENER, CHARLES DUN-CAN, 1918—. The bees of the genera Chelostomopsis, Formicapis, Robertsonella and Prochelostoma; Hymen.: Megachilidae. (Entomological news, May 1938.

v. 49, no. 5, p. 127-32.)

Contains descriptions of four genera and four species restricted to North America. Formicapis elypeata recorded in Alaska (Fairbanks, June 30, 1921) is included. Copy seen: DA.

46740. MICK, ALLAN H. Nitrogen, phosphate and potash nutrition of selected Alaska soils. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 151–54, 2 tables.)

Contains information on methods of determining fertilizer requirements, especially a modified Mitscherlich method for Alaska; use of indicator plants for determining soil fertility; the role of N, P, and K in subarctic brown forest soil; content of organic matter.

Copy seen: DGS.

MICK, ALLAN H., see also Chapman, R. M., and others. Geological and geographical research in Alaska's future development . . . 1954. No. 44311.

MICK, ALLAN H., see also Moore, T., and A. H. Mick. The future . . . agricultural education . . . 1954. No. 46834.

MICK, ALLAN H., see also Wilson, J., and others. Frontier development problems . . . 1956. No. 48979.

MIDDENDORFF, ALEXANDER THEO-DOR von, 1815–1894, see Sdobnikov, V. M. Izmenenia v ornitofaune severnogo Talmyra. 1956. No. 47863.

**46741.** *MIDWEST ENGINEER.* Huts of wood defy the Antarctic. (Midwest engineer, Sept. 1956. v. 9, no. 4, p. 10–11.)

Members of Operation Deepfreeze reported that three unpainted wooden houses erected by Scott and Shackleton on Antarctica 45–54 years ago still are in good condition. Construction details of the huts are outlined as given in journals of the expeditions. The oldest house has a floor area of 36 ft. square and a double layer of wood sheathing. Another, measuring 33 x 19 ft., was prefabricated, and has a four-inch layer of granulated cork insulation. The third hut measured 50 x 25 ft., was built with two layers of seaweed insulation, each between two thicknesses of tongue-and-grooved boards Copy seen: DLC.

MIGLIORINI, GIORGIO, see Filippi, P., and others. Studio sperimentale . . .

cuore . . . intossicazione novocainica nell' animale . . . ipotermia. 1955. No. 44893.

MIKAELIAN, V. G., see Ambartsumian, G. A., and others. Novyĭ tip shugo-sbrosa. 1956. No. 43607.

46742. MIKHAĬLOV, A. A. Vazhnye raboty po astrometrii; iz programmy Mezhdunarodnogo geofizieheskogo goda. (Akademiâ nauk SSSR. Vestnik, Dec. 1956. god 26, no. 12, p. 44–47, graph.) Text in Russian. *Title tr.:* Important astrometrical works; from the program of the International Geophysical Year.

Discusses plans for observations on movement of the poles caused by variations of latitudes. Previous Soviet work on this phenomenon are noted and changes of position of the North Pole in 1951–1956 are graphed.

Copy seen: DLC.

46743. MIKHAĬLOVSKIĬ, VIKTOR M. Shamanism in Siberia and European Russia. (Shamanstvo u inorodísev Sibiri i Evropeískof Rossii.) Translated from Russian by Oliver Wardrop. (Royal anthropological institute of Great Britain and Ireland. Journal, Aug.—Nov. 1894. v. 24, no. 1, p. 62–100; no. 2, p. 126–58.) Approx. 60 refs.

Translation of pt. 2, i. e. p. 54-115, of Shamanstvo; sravniteľ no-etnograficheskiť sbornik (No. 30791).

Copy seen: DLC.

46744. MIKKELSEN, EJNAR, 1880—. Los Esquimales de Groenlandia oriental: desde la edad de piedra hasta la era atomica. (Boletin de estudios geograficos, Jan.—Mar. 1956. v. 3, no. 10, p. 8–18.) Text in Spanish. *Title tr.:* The Eskimos of East Greenland: from the Stone Age to the atomic era.

Account of these Eskimos' environment; visits of white men in 18th and 19th centuries; living conditions and customs as observed by Gustav Holm, establishment of the colony of Angmagssalik in 1894, and resulting changes in mode of living; Danish administration and regulations, past and present; establishment of Christianity, education, care of the old; present distribution of Eskimos in Angmagssalik Distrikt. Copy seen: DGS.

46745. MIKKELSEN, EJNAR, 1880—Scoresbysund kolonien 1924—55. (Grønland, Mar. 1956, nr. 3, p. 81—91, illus.) Text in Danish. *Title tr.:* The Scoresbysund settlement, 1924–55.

Reviews development of Scoresbysund, East Greenland, founded in 1924 by settlers from Angmagssalik. The Greenlanders have settled down in the new site. Ice conditions have proved satisfactory, and the sealing better than at Angmagssalik. In 1954 returns at Scoresbysund were 2,199.83 Danish crowns per 262.56 er./individual; at hunter and Angmagssalik, 251.43 and 67.85 er. Seals caught numbered respectively. 101.4/hunter and 12.9/inhabitant in Scoresbysund; 23.9/hunter and 5.3/inhabitant at Angmagssalik. The new settlement had 310 population, Jan. 1, 1954; more could make a living there. Copy seen: DLC.

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MIKKELSEN, EJNAR, 1880–, see also Denmark. Udenrigsministeriet. Greenland. 1956. No. 44601.

MIKKOLA, AIMO NUSTAA, 1917–, see Ödman, O. H. R., and others. Den svensk-finska geologiska exkursionen i Tornedalen . . . 1948. 1949. No. 47136.

46746. MIKOLA, PEITSA UNTAMA, 1915- . Tree-ring research in Finland. (Tree-ring bulletin, Apr. 1956. v. 21, no. 1-4, p. 16-20, 3 tables.) 21 refs.

Research has emphasized (1) relation of tree growth to different climatic factors and the practical significance of growth variations, (2) recent climatic fluctuation and its effect on diameter growth. Dendrochronological dating has not been practised. Studies made on the northern timber line indicate dependence of diameter growth on temperatures of the growing season. No correlation has been found between precipitation and diameter growth. Large variation in width of annual rings is of particular interest in the timber-line region. Close correlation exists between tree-ring index series from different parts of Finland except for the northern timber line (68°-70° N.). Correlation between different parts of the Scandinavian timber line is high. Copy seen: DLC.

MIL', M. L., see Babenko, A., and V. Mel'nikov. Vertolety . . . 1956. No. 43798.

46747. MILENUSHKIN, Ū. Literaturnoe obozrenie. (Okhotnich'i prostory, 1956. kniga 6, p. 437–43.) Text in Russian. *Title tr.:* Book reviews.

Survey of the Soviet publications of 1950-May 1955 on hunting. Over 40 works are considered, none of them on commercial hunting.

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46748. MILÂEV, NIKOLAĬ ALEKSEE-VICH. Astronomical observations. Washington, D. C., 1956. 8 p. diagr., tables paged 360–80 from Russian edition. (*In:* Somov, M. M. Observational data . . . drifting station 1950–1951, pt. 7; translated by David Kraus.)

The work of the astronomical group on North Pole-2 consisted of determining the coordinates of the drifting station in the Arctic Basin north of Bering Strait and observing the azimuth for establishing the position of the ice floe. Procedures used for determining the coordinates and making the azimuthal observations as well as the equipment employed are described. April, May, and October proved the most favorable months for observations. Coordinates of the station are tabulated for 420 determinations. Data on orientation are tabulated, and changes in orientation are graphed.

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46749. MILITARY ENGINEER. Army Engineer Alaskan mapping. (Military engineer, Mar.-Apr. 1956. v. 48, no. 322, p. 107, col. 1).

Contains brief summary of the topographic survey project in Alaska completed Aug. 28, 1955 by the members of the 30th Engineer Group, United States Army Corps of Engineers. The 587 officers and enlisted men completed a five-year mission of mapping and surveying the western half of Alaska, including the entire area north of the Brooks Range. In 1955 a total of 88,000 sq. mi. was mapped and surveyed above the Arctic Circle.

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46750. MILITARY ENGINEER. Caterpillar cold weather notes. (Military engineer, Mar.-Apr. 1956. v. 48, no. 322, p. 145-46.)

Contains suggestions for cold-weather operation and maintenance of heavy earth-moving equipment. The installation of special snow track grousers to remedy snow packing between the rails of tracks is advocated. Transmissions and final drives should be flushed and refilled with fresh oil of a lighter grade, generally SAE No. 80.

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46751. MILITARY ENGINEER. Coastline measurements: the Americas. (Mili-

tary engineer, Mar.-Apr. 1956. v. 48,

no. 322, p. 135-36.)

Contains list of coastline measurements compiled by the Coast and Geodetic Survey, including Greenland (8,650 statute miles) and Canada (33,065 statute miles).

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**46752.** MILITARY ENGINEER. Soviet observations in the Arctic. (Military engineer, Mar.-Apr. 1956. v. 48, no. 322, p. 134-35.)

Contains summary of Soviet press reports on details of operations conducted by the High-Latitude Arctic Air Expedition of 1954 in the Arctic Basin.

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46753. MILLER, DAVID HEWITT, 1918- . The influence of snow cover on local climate in Greenland. (Journal of meteorology, Feb. 1956. v. 13, no. 1, p. 112-20, 5 graphs, 2 tables.) 49 refs. "Voelkov's classic theory of effect of snow cover on climate is revised using observations from various expeditions on the Greenland inland ice. In winter during storms, heat is brought in by advection and subsidence, and loss by long wave radiation is decreased. This heat is stored in the lower air and surface layer of snow. Between storms it is dissipated by long wave radiation and a local climate develops. The cycle lasts 7½ days and storage and dissipation amount to 100-150 cal/cm<sup>2</sup>. In summer there is a similar diurnal cycle, storage and dissipation between periods of high and low sun amounting to about 30 cal/ cm2. These thermal balances are shown in tables and graphs."-Meteorological abstracts & bibliography, Aug. 1956. v. 7, no. 8, p. 996. Copy seen: DLC.

MILLER, DON JOHN, 1919—, see Plafker, G. and D. J. Miller. Reconnaissance geology . . . Malaspina District . . . 1956. No. 47370.

46754. MILLER, JOHN CHARLES, 1893- . Geology of waterpower sites on Crater Lake, Long Lake, and the Speel River near Juneau, Alaska. Washington, D. C., 1956. 46 p. 8 maps (7 fold.). Mimeographed. (U. S. Geological Survey. Reports, open file series, no. 372.) 6 refs.

Contains results of investigations in the Tongass National Forest at the head of Speel Arm of Port Snettisham (approx. 58°10' N. 133°45' W.). Topography and drainage are described in some detail. The four dam sites investigated are at the outlets of Crater and Long Lakes, at the first gorge of the Speel River below its junction with Long River, and in the saddle between Indian Lake and Speel Arm. Bedrock at the sites is essentially quartz diorite containing varying proportions of hornblende and biotite. Topography, geology, structure, dam site possibilities, and availability of construction materials are considered for each site. The sites "appear to be geologically feasible for the construction of the various structures that would be required for power development."

Copy seen: DGS.

46755. MILLER, M. S. Vyvozka lesa v khlystakh po avto-snezhnoi doroge. (Lesnafa promyshlennost', Dec. 1954. god 14, no. 12, p. 4–5, illus.) Text in Russian. *Title tr.:* Transport of long timber on motor snow roads.

Special non-skid sleds used in trucking extra-long logs are described. These two rear sleds are held in place by the weight of the timber, though connected with the truck carriage by a loose chain for emergency. Anti-skidding hard steel fins are welded on the bottom surface of the sled runners, and they withstand 1,500 km. trips without repair.

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46756. MILLER, MAYNARD MAL-COLM, 1921- . Floating islands. (Natural history, May 1956. v. 65, no. 5, p. 233-39, 274, 276, illus., maps, diagrs.) "The discovery of ice islands is reviewed, and observations made on a reconnaissance flight in Aug. 1951 are described. A sheet of ice moored to a glacier-free shore, projecting 50 mi. into the sea, was sighted between Phillips and Markham Bays of Ellesmere Island. There were distinct furrows on its surface parallel to the coastline, with clean snow on the ridges and meltwater in the depressions. The distance between ridges was 100-300 yd., and the height of the ridges was 5-15 ft. A similar sheet of ice about one sq. mi. in area was found drifting in the vicinity of the grounded ice. T-1 (which had not been seen for two years) was found 20 mi. north of Disraeli Bay. Its topography closely resembled that of the ice sheet. T-2 was located 150 miles beyond the North Pole. was about 200 ft. thick and had a smooth surface due, probably, to progressive melting and refreezing."—SIPRE. 46757. MILLER, MAYNARD MALCOLM, 1921— . Significance of the anomalous advances of Alaskan coastal glaciers. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1808–1809.)

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Abstract of paper presented at the Seventh Alaskan Science Conference (AAAS), Juneau, Sept. 27–30, 1956. Of the 16 glaciers of the Taku-Llewellyn system, Juneau Icefield, studied since 1946, 14 are retreating, although 10 advanced between 1895–1925. Taku and Hole-in-Wall Glaciers have continued to advance as result of upward shift in level of maximum solid precipitation over the Coast Range, 1885–1945, coincident with pronounced regional warming.

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MILLER, MILTON ALBERT, 1907—, see Bartlett, R. G., and M. A. Miller. The adrenal cortex in restraint hypothermia...1956. No. 43890.

MILLER, MILTON ALBERT, 1907—, see also Bartlett, R. G., and others. Gross muscular activity . . . temperature regulation . . . restrained rat. 1956. No. 43892.

46758. MILLER, RONALD, 1910—. Scotland's part in polar exploration and oceanography. Edinburgh, 1955. [9] p. (Edinburgh. University. Department of Geography. Papers, 1952–1954. v. 5, no. 7.) Also pub. in: University of Edinburgh Journal, Autumn 1953. p. 39–47.

Work of such notable Scots as Alexander Mackenzie, John Ross, James Clark Ross, and John Rae in the Canadian Arctic in the 18–19th centuries also John Richardson, Harry Goodsir, and William Scoresby of Edinburgh University; William Speirs Bruce's activities in Franz Josef Land region, Svalbard, and the Antarctic, late 19th-early 20th century; H. I. Drever's work in Greenland (no description), in the early 1950's.

\*\*Copy seen: DGS.\*\*

MILLER, S. W., see Allen, C. F., and S. W. Miller. Seismic measurements . . . Greenland Ice Cap. 1954. No.

43582.

46759. MILLIGAN, G. C. Bibliography of geology of the Precambrian area of Manitoba to 1950. Winnipeg, King's Printer, 1951. 67 p. (Manitoba, Dept. of Mines and Natural Resources. Mines Branch. Publication 51-1.)

Approx. 475 references primarily on geology, not mining, are listed by author with subject and location (mining district) indexes. Maps (from Manitoba Mines Branch 1937–1950, and the Geological Survey of Canada 1917–1950), approx. 125 in all, are listed also. Many references to north-central and northwestern Manitoba are included. A similar bibliography on the post-Cambrian was compiled by Lillian B. Kerr, q. v. Copy seen: DGS.

46760. MILLIGAN, G. C. Geology of Beau-Cache Lake area, Granville Lake division, northern Manitoba. Winnipeg, King's Printer, 1951. 25 p. fold. map 24 x 28 in., diagr., table. (Manitoba. Dept. of Mines and Natural Resources. Mines Branch. Publication 50-8.) 4 refs.

Map (scale 1 in.: 1/2 mi.) covers the area 56°23′-30′ N. 100°30′-40′ about 30 mi. southeast of Lynn Lake. Field work was done in Sept. 1950. Physical geography is briefly described. Bedrock is Precambrian. Folded and metamorphosed lavas and sediments of the Archean Wasekwan series are overlain by Sickle series sediments, folded and faulted to a lesser degree. Post-Sickle basic and granitic intrusives have invaded the older rocks. Some general trends and the fault systems are discussed; also geologic history. No mineral occurrences of economic importance are known. Mineralization on claims is described. Copy seen: DGS.

46761. MILLIGAN, G. C. Geology of the Laurie Lake area, Granville Lake division, northern Manitoba. Winnipeg, Queen's Printer, 1952. 31 p. 2 maps (1 fold. 28 x 41 in.), tables. (Manitoba. Dept. of Mines and Natural Resources. Mines Branch. Publication 50-7.) 6 refs.

Map (scale 1 in.: ½ mi.) covers the area 56°30′.45′ N. 101°45′—102° W., about 35 mi. southwest of Lynn Lake. Field work was done in summer 1950. Physical geography is briefly described. Consolidated rocks are Precambrian. A complex fault zone marks the contact between the metamorphosed lavas and sediments of the Archean Wasekwan series to the north and younger Sickle sediments to the south. Both Wasekwan and Sickle rocks appear to grade into Kisseynew-type gneisses. Granite intrudes the Wasekwan series, and pegmatites are common. Geological history

of the region is traced. Mineralization is described, and gold and copper values resulting from assays are given.

Copy seen: DGS.

**46762.** MILLS, A. W. Finger numbness and skin temperature. (Journal of applied physiology, Nov. 1956. v. 9, no. 3, p. 447–50, illus.) 13 refs.

Report of investigation, indicating that tactile discrimination in index fingertips decreases with the skin temperature of the same area. If the finger was rewarmed by spontaneous dilatation, which generally developed after  $\pm 15$  min. of exposure to  $-18^{\circ}$  to  $-23^{\circ}$  C., tactile discrimination recovered with rise of skin temperature; otherwise frostbite ensued.

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46763. MILORADOVICH, B. V. Materialy k izucheniû devonskikh otlozheniî Novol Zemli. (Moskovskoe obshchestvo ispytateleĭ prirody. Bûlleten', 1940. Otdel geologicheskiĭ, t. 18, no. 3–4, p. 123–34, text maps, illus.) 18 refs. Text in Russian. Summary in French. Title tr: Materials for study of Devonian formations on Novaya Zemlya.

Contains discussion of new data on the stratigraphy of southern Novaya Zemlya, particularly with regard to middle and upper Devonian formation of the Chernaya Bay region (approx. 70°40′ N.). The geological structures of formation of Cape Tizengauzen, Baklyshi Peninsula, and Shinkova Bay are discussed in detail. Existence of Lower Devonian formation is not definitely proved.

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46764. MILORADOVICH, B. V. O dvukh novykh rodakh brakhiopod iz verkhnego paleozofa Arktiki. (Moskovskoe obshchestvo ispytateleľ prirody. Bfulleten', 1947. Otdel geologicheskil, god 118, t. 22, no. 3, p. 91–99, illus., table.) 8 refs. Text in Russian. Summary in English. Title tr.: On two new genera of brachiopods from the upper Paleozoic of the Arctic.

Description of two genera of these molluscoid animals from Vaygach and Novaya Zemlya. One Gamdaella gen. nov. represents an offspring of lower Paleozoic centramerids; the other is Pseudoleptaena, gen. nov.

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MILOVANOVICH, VOISLAV, see Ivanov, ÎÜ. V kratere . . . 1956. No. 45734. MILUTINOVIĆ, P., see Šahović, K., and others. Iskoristljivost glikoze . . . 1956. S.-C. No. 47753.

46765. MINAĬCHEV, N. D. Vystavka rabot Akademii nauk SSSR. (Akademiia nauk SSSR. Vestnik, Aug. 1956. god 26, no. 8, p. 45–52, plate.) Text in Russian. *Title tr.:* Exhibition of the work of the Academy of Sciences of U. S. S. R.

Notes participation of several scientific institutions of the Academy of Sciences in the All-Union Agricultural Exhibition 1956; specimens of deep-sea fauna collected by an expedition on the research vessel Vitiūz', devices for observation of abyssal marine life exhibited by the Institute of Oceanology; display on the Antaretic Expedition, showing among other objects, a model of the research vessel Ob'.

Copy seen: DLC.

46766. MINER, ERNEST LAVON, 1900— . Megaspores ascribed to Selaginellites from the Upper Cretaceous coals of Western Greenland. (Washington Academy of Sciences. Journal, Nov. 19, 1932. v. 22, no. 18–19, p. 497–506, 31 illus.) 13 refs.

Contains descriptions of nine species of fossil pollen of this fern genus. The material was collected by C. O. Erlanson in 1928, from two localities, Patoot on the southeast coast of the Nugssuaq Peninsula and Skansen on the east coast of Disko Island.

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**46767. MINER, RICHARD Y.** Aircraft possibilities for true north gyro compass. (Navigation, Mar. 1956. v. 5, no. 1, p. 23–28, illus., diagrs., tables.)

Contains a description of the True North Gyro, a maritime compass, modified for possible use in aircraft. It offers some advantage in polar flying in regions where a magnetic compass cannot be used. Copy seen: DLC.

46768. MINING ENGINEERING. J & L Steel options large iron ore deposit near Labrador. (Mining engineering, Mar. 1956. v. 8, no. 3, p. 261, text map.)

Preliminary exploration by Quebec Cobalt & Exploration Ltd. has outlined approx. one billion tons of 32 percent iron ore (primarily coarse hematite, with lesser amounts of magnetite) in the Mt. Wright area, northern Quebec (52°45′ N. 67°21′ W.), about 180 mi. south of Knob Lake. Jones and Laughlin Steel Corp. will drill and test the deposit 1956–57

Operating agreement between the U. S. and Canadian companies is outlined. If the deposit is proved, ore will have to be beneficiated to produce high grade ore of 60 to 65 percent iron.

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46769. MINING JOURNAL. Russian mining developments in the Arctic. (Mining journal, June 15, 1956. v. 246,

no. 6304, p. 743, 2 illus.)

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Notes mining of coal, gold, iron, copper, asphalt, and graphite in the Pechora region (67°40' N. 52°30' E.), platinum and gold on the Chukchi Peninsula, opalite and iron on Kola Peninsula; also sinking of oil wells at Ukhta, Pechora and Khatanga, and development of salt mines of that region. Chaunskaya Guba (69°20' N. 170° E.) is the most important tin-Little is known of producing area. Soviet development of Svalbard mineral Ore transport by river in Siberia is noted, also construction of 700-mile railway east from Murmansk track to coalfield on Kara Sea.

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46770. MINING WORLD. What's happened to Alaskan gold mining and how can it be saved? (Mining world, Feb. 1956. v. 18, no. 2, p. 39.)

Declining gold placer mining industry is attributed to lack of proper financing; miner is forced to concentrate on production; prospecting is at a standstill. Peculiar conditions of mining in Alaska due to climate, frozen soils, etc., are briefly summarized. Financing program and a lending institution understanding Alaskan problems are needed.

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46771. MINKEVICH, V. Gaga. (Okhota i okhotnich'e khozialstvo, Nov. 1956, no. 11, p. 28–29, illus.) Text in Russian. *Title tr.:* Eider duck.

Brief note on habitat, feeding, breeding and economic value of eider occurring on the coasts of Barents Sea, on Novaya Zemlya and on White Sea islands; with photographs, taken on the Kandalaksha Bay islands preserve, of nesting eider, nest and young, gathering of down, etc.

Copy seen: DLC.

46772. MINKINA, TS. I. Vysokozol'nye (mineralizovannye) torfıânye zalezhi, ikh genezis i osobennosti stratigrafii. (Akademia navuk BSSR, *Minsk*. Instytutorfa. Trudy, 1954. t. 3, p. 51–78, tables, graphs, maps.) 38 refs. Text in

Russian. Title tr.: High ash-content (mineralized) peat deposits, their genesis

and specific stratigraphy.

Peat with mineral inclusions in the form of mechanical mixtures or laminations or lenses is described with a view to its use in agriculture. These inclusions specifically noticeable in dry peat are nonuniformly distributed in peat of normal ash content. Such deposits probably were formed by the normal process or by mineral sedimentation. As result, deposition of high complexity occurs with specific stratigraphy and specific distribution of physical and agrochemical properties, which are not subject to general regularity in distribution. Four main groups of deposits are described, with alumino silicates, carbonites, iron phosphates, and with complex mineralization. Deposits of these types are usually found in southern regions and used mainly as fertilizers. Copy seen: DLC.

46773. MINNESOTA. UNIVERSITY. The Strait of Anian; an exhibit of three maps in the James Ford Bell Collection at the University of Minnesota, portraying sixteenth and eighteenth century concepts of the waterway between Asia and America, which is now known as the Bering Strait. St. Paul, Minn., North Central Pub. Co., 1956. 13 p. 3 maps (1 fold.)

Describes mapping of Bering Strait, eastern Siberia and western North America in the 16th and 18th centuries, principally the 16th century maps of Camocio and Zaltieri, which are reproduced; also Bering's expedition across Siberia and exploration of the Strait, 1725-1730, with reproduction of map showing his route. Copy seen: DLC.

46774. MIRCHINK, G. F. Obshchafa geologifa l'da. (*In:* Veinberg, B. P., and others: Led . . 1940. p. 491–95.) 5 refs. Text in Russian. *Title tr.:* General geology of ice.

Present glaciation of the earth is reviewed. Reoccurrence of glacial periods, indicated by appreciable changes in fauna and flora, are analyzed from viewpoint of various hypotheses.

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46775. MIRCHINK, S. G. Rel'ef i geologiâ rykhlogo pokrova Enisefskogo krîazha mezhdu r. r. B. Pitom i Angarot. (Moskovskoe obshchestvo ispytatelef prirody. Bûlleten' 1947. god 118. Otdel geologicheskil, t. 22, no. 1, p. 83–103, 2 text maps, diagrs., graphs.) 16 refs. Text in Russian. Summary in English. *Title tr.:* Relief and geology of loose soil on the Yenisey ridge between the Rivers Bolshoy Pit and Angara.

Contains description of the relief and stratigraphy of gold-bearing Quaternary deposits in the ancient and contemporary Yenisev and Angara valley. The younger deposits are mostly of the following types: eluvial, deluvial, solifluctional, alluvial, or deposits of contemporary seasonal freezing. On the basis of the lithology and geomorphology, three phases in development of the relief in the Yenisev ridge are discussed: formation of ancient peneplain in Mesozoic time; dissection of ancient peneplain and formation of broad valleys filled with deposits of the first complex, the remnants of which are preserved in the contemporary watersheds; and formation of now buried and also of contemporary valleys. The recognition of shifting of river systems and the existence of buried valleys, connected with late tectonic movement, opens new possibilities for the prospecting of gold Copy seen: DLC. placers.

46776. MIRNYĬ, S. Geograficheskii poedinok. (Vokrug sveta, Oct. 1956, no. 10, p. 62-63, illus.) Text in Russian. Title tr.: A geographical duel.

Biographical sketch of Peter Freuchen, occasioned by his winning \$64,000 on July 3, 1956 in geographical quiz on American television show, when he displayed astonishing memory for geographical data.

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46777. MIRONOV, A. V., and N. N. SHEFOV. Nabhūdenie spektra polarnogo sifanifa pod Moskvol. (Astronomicheskil zhurnal, Sept.—Oct. 1956. t. 33, no. 5, p. 715—16, plate.) Text in Russian. Summary in English. *Title tr.:* Observation of the auroral spectrum near Moscow.

Describes the auroral spectrum in the 4,700-6,000 Å range, as observed and photographed at the Zvenigorod scientific station of Geophysical Institute of the Academy of Sciences on the night of Nov. 19-20, 1955. Copy seen: DLC.

MIRONOV, ALEKSANDR TIMOFEE-VICH, see Golubev, G. Tok v okeane. 1956. No. 45172.

46778. MIRONOV, M. Abakanskafa blagodat'. (Molodof kolkhoznik, Aug.

1956, god. 23, no. 8, p. 6, illus.) Text in Russian. *Title tr.:* Abakan bliss.

Includes note on construction of the Achinsk-Abalakovo rail(?) road, which is to link the Trans-Siberian Railroad with the lower Angara River basin, where large iron ore deposits are said to be, the base for a planned new metallurgical combine.

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46779. MIRONOV, SERGEÏ ANDREE-VICH. O mezhdunarodnom kongresse po zimnemu betonirovaniû. (Stroitel'naû promyshlennost', July 1956. god 34, no. 7, p. 38–41, illus., graph.) Ref. Text in Russian. *Title tr.*: International congress on winter concrete work.

Contains brief review of 26 papers, presented by various delegates from Canada, Denmark, Finland, Norway, Poland, Sweden, Switzerland, United States and U. S. S. R. The subjects treated relate mainly to the composition of frost-resistent concretes and methods used for mixing, casting and for preservation during setting. Copy seen: DLC.

46780. MIRONOV, SERGEĬ ANDREE-VICH. Temperaturnyī faktor v tverdenii betona. Moskva, Gos. izd-vo stroitel'noI lit-ry, 1948. 236 p. illus., tables, graphs, refs. Text in Russian. *Title* tr.: The temperature factor in the solidification of concrete.

Theory of the solidification of concrete of various compositions is discussed with the consideration of the effects of time and temperature factors on its strength and other properties (heat and frost resistance, porosity, hygroscopicity, etc.). The theory and conclusions are based on experimental results obtained with, and without additives specific for acceleration or retarding the setting period (pt. 1, p. 5-86). The second, and major part of the work (p. 87-234) contains description and data of laboratory investigations on thermal treatments of concretes of various compositions at temperatures from 1° to 180° C. Study was also made of their effects on the frost resistance of the material, tested by repeated freezing, 10-100 times (p. 226-32).

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46781. MIRONOV, SERGEĬ ANDREE-VICH. Teorifa i metody zimnego betonirovanifa, 2 izd. dop. i perer. Moskva, Gos. izd-vo lit-ry po stroiteľ stvu i arkhitekture, 1956. 405 p. illus., tables, graphs, diagrs. 125 refs. Text in Russian. *Title tr.:* Theory and methods of winter work with concrete, 2 ed. rev. and enl.

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Revised edition of No. 24382, with addition of 140 pages and many illus., presentation of new methods in concrete work, additives for quick hardening and higher strength, etc. A new chapter (p. 281-96) deals with preparation of prefabricated parts: panels, beams, columns, heavy plates, etc., with individual heating or in heated sheds. Construction of smoke stacks, silos, towers, bridge arches with movable heating arrangement is described in detail (p. 296-306). Special work under freezing conditions, with various additives and electric heating for reinforced concrete structures is outlined with illus. Methods of facing and plastering building walls are included (p. 307-Arrangements and equipment are described (p. 340-78) for concretemixing plants with a heating system.

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46782. MIROSHNIKOV, L. D. Nakhodki ostatkov fauny na Taïmyre. (Priroda, Oct. 1956. god 45, no. 10, p. 117–18.) Text in Russian. *Title tr.:* Finds of faunal remains on the Taymyr Peninsula.

Contains description of ancient seacoast cliffs about 100 km. inland on Cape Chelyuskin. In a cave of these cliffs, skull and bone fragments of a muskox were found, also bones of lemmings and field mice. The skull and lower jaw of a walrus, bones of beluga and shells of Astarte borealis, Pecten islandicus and Saxicava arctica were obtained in the same region.

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46783. MIROSHNIKOV, L. D. O mezozoľskikh otlozheniíakh severnogo Taľmyra. (Akademiía nauk SSSR. Doklady, Nov. 21, 1956. t. 111, no. 3, p. 676–77.) Text in Russian. *Title tr.:* On the Mesozoic deposits of northern Taymyr.

Notes previous explorers' collections and reports on the author's investigations in 1949 of the Zhdanov and Slantsevaya River deposits in the southern section of Chelyuskin Peninsula (zone of Tollia stenomphala; middle Jurassic fauna: Lima duplicata, Astarte depressa, A. elegans, Terquemia sp., etc.). In 1950 he discovered coal-bearing deposits represented by plastic clays and fine-grained sands in the Gafner fiord region and the Leningradskaya River basin. Similar deposits were found by F. I. Ivanov and

M. G. Ravich in the northern foothills of Byrranga Mts. These Mesozoic deposits are overlain by marine and glacial Quaternary formations.

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46784. MIROSHNIKOV, L. D. Svízz' rastitel'nosti s vykhodami gornykh porod. (Priroda, Nov. 1956, god 45, no. 11, p. 95–96, 2 illus.) Text in Russian. *Title tr.:* Relationship between the vegetation and rock outerops.

Discusses plants as geological indi-It is known that the so-called halophytes grow only on saline soils, that Viola calamarina indicates the presence of zine and Digitalis purpurea that of manganese in the substrates, etc. relationship between vegetation and substrata is demonstrated in the northern part of the Siberian platform. In the Noril'sk region, for instance, igneous traprock formations predominate and a typical taiga vegetation has developed; but the Yenisey valley (70-130 mi. from Noril'sk) and eastern part of Western Siberian plains, which are filled with Quaternary and Mesozoic sediments, are the seats of typical tundra and foresttundra vegetation. Geochemical factors seem to influence the climatic zoning of the vegetation. Copy seen: DLC.

46785. MIROV, NICHOLAS TIHO, 1893- . Composition of turpentine of lodgepole x jack pine hybrids. (Canadian journal of botany, July 1956, v 34, no. 4, p. 443-57, 6 illus., 2 tables.) 28 refs.

Range and taxonomy of lodgepole pine, Pinus contorta (British Columbia, Sitka in Alaska, Yukon) and jack pine, P. banksiana (Mackenzie District, Yukon) are reviewed with discussion of the ecological aspects of their natural hybridization. "When the two pines were artificially crossed, the F1 generation possessed turpentine in which the bicyclic terpenes of jack pine dominated over the simpler, monocyclic terpenephellandrene-of lodgepole pine."-Author's abstract. Copy seen: DLC.

**46786. MIROV, NICHOLAS TIHO, 1893**– . Lodgepole pine discovered and misnamed. (Madroño, Jan. 1954. v. 12, no. 5, p. 156–57.) 4 refs.

This pine was first collected on Baranof Island, Alaska, by Mertens, a naturalist with Litke's round-the-world expedition. The collection was described by H. G. Bongard (No. 1961), who misidentified this plant as *Pinus inops* Aiton. In 1825

D. Douglas collected lodgepole pine near the Columbia River mouth in the State of Washington, and his specimen was described in 1838 by J. C. London as P. contorta n. sp. Copy seen: DA.

MIRSKY, JEANNETTE, 1903–, see Sanders, I. T. Societies around the world. 1956. No. 47782.

46787. MISENER, AUSTIN DONALD, 1911—, and others. Heat flow measurements in permafrost at Resolute Bay, Northwest Territories. (Royal Astronomical Society of Canada. Journal, Jan.—Feb. 1956. v. 50, no. 1, p. 14–24, diagrs., graphs.) 7 refs. Other authors: P. C. Bremner and J. H. Hodgson.

During summers 1950-1953, drilling operations were carried out at Resolute (74°41' N. 94°55' W.) to determine temperature gradient in bedrock. Drilling instruments and difficulties due to permafrost and caving are described. Several holes were completed ranging from a few feet to 650 feet, and temperature-measuring elements were installed. Cores were taken at 50-ft. intervals. Analysis of temperatures indicates a temperature gradient at depth of 2.16° F./100 feet. The mean thermal conductivity of the cores has been determined as  $7.3 \pm 0.7 \times 10^{-3}$  cal./cm./sec./deg. C. Combining these two measurements leads to a heat flow of 2.9 x 10<sup>-6</sup> cal./cm.<sup>2</sup>/sec. This is about twice the value hitherto accepted as normal for the sea level crust. An unexplained anomaly exists in that temperatures near the surface are higher than would be expected from the gradient at depth.-From author's abstract.

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MITCHELL, HAROLD HANSON, 1886-, see also USQM Food & Container Institute. Nutrition symposium. 1954. No. 48643.

46788. MITCHELL, JOHN MURRAY, 1928 - . Strong surface winds at Big Delta, Alaska; an example of orographic influence on local weather. (U. S. Weather Bureau. Monthly weather review, Jan. 1956. v. 84, no. 1, p. 15–24, text map, graphs, diagr.) 5 refs.

The remarkably high frequency of strong surface winds in this region (64°10′ N. 145°50′ W.) is studied with respect to its cause, characteristics, and local effects. During the winter, the winds are predominantly east-southeast and, unlike glacier or valley winds, are

caused by a topographically induced convergence of the flow of air down the Tanana valley which occurs at times of southeast gradient winds aloft. Strong south winds are also experienced the year round. The east-southeast winds are persistent; in an extreme case (described) gusts in excess of 40 m. p. h. endured for 7½ days (Jan. 20-28, 1952). These winds are also characterized by marked diurnal variation in frequency of their commencement; a strong control by atmospheric tides is inferred. An important effect of the winds is to interrupt periods of very low temperature, but sometimes to create severe 'wind chill.' Brief account of the forecast problem is given.-From author's abstract. Copy seen: DGS.

46789. MITCHELL, SAMUEL Q., and others. Dose-response of epinephrine and of procaine amide during hypothermia. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 460-61.) Other authors: F. Da Costa, W. M. Booker, R. R. Wheaton and R. J. Robinson.

Account on the effects of these cardiac drugs prior and during hypothermia in dogs. ECG and blood samples were taken and analyzed and the varied effect of these drugs under normal and hypothermic conditions is discussed.

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MITSKEVICH, K. M., see Pichugin, A. V., and others. Torfianye mestorozhdenia . . . 1956. No. 47348.

MIZUNO, H., see Nagata, G., and H. Mizuno. Sq-field . . . quiet days. 1955. No. 46922.

46790. MOATS, HAROLD L. Science, an aid to the Corps of Engineers in Alaska. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 14–16.)

Contains review of the civil works and military construction program carried out by the U. S. Corps of Engineers in Alaska. Its role and scientists' contributions in study of permafrost are noted, with statement of immediate problems requiring research. Copy seen: DGS.

46791. MOBERG, ARVID. Litet om handel och gränstrafik i gammal tid inom nordkalotten. Tromsø, Jan. 1955. 12 p. 2 text maps. (Ottar, nr. 2). Text in Swedish. *Title tr:* Brief account of commerce and border traffic in olden times within the Scandinavian Arctic.

Colonization of the Scandinavian arctic region after 1300 A. D. was fostered by commercial interests of Norway, Sweden, Finland, and Russia. Some 16th-17th century data are given, and the best overland routes from northern Sweden to the arctic coast are described; trade commodities (mainly cod, halibut) and volume are discussed. The role of fairs, visited by Russians as well as Scandinavians, is noted. Other important factors in trade have been the establishment of a postal service in the mid-18th century and building of a railway for transport of iron ore at the end of the 19th century. Both are described in some detail.

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46792. MODZALEVSKAĀ, E. A., and V. P. NEKHOROSHEV. Klass Bryozoa mshanki. (In: Leningrad. Vseso@znyĭ geologicheskiĭ institut. Polevoĭ atlas ordovikskoĭ i siluriĭskoĭ fauny Sibirskoĭ platformy, 1955. p. 48–60, illus.) Text in Russian. Title tr: Class Bryozoa.

Information on morphology, size, taxonomy, occurrence, etc., is presented. Twenty-seven species are described from various parts of the plateau, 21 of them new. Some forms also occur in North America.

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46793. MOE, OTTO WIESE. Små glimt fra felttoget i Finnmark. Oslo, Høvik bokhandel, 1946. 32 plates, map. Text in Norwegian. *Title tr:* Small glimpses from the field campaign in Finnmark.

34 humourous pen and ink drawings of army life in northern Norway in 1945. Brief text (in verse) by Einar Gandrud is added, also sketch map.

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46794. MØLLER, CHR. K. X-ray investigation of bøggildite. København, C. A. Reitzel, 1956. 8 p. 4 illus. on 3 plates, table (Meddelelser om Grønland, bd. 137, nr. 6) 4 refs. Also pub. as: Greenland. Geologiske undersøgelse. Bulletin, no. 14.

"X-ray investigation of single crystals of bøggildite from Ivigtut, southwest Greenland, 61°12′ N. 48°16′ W. shows that they are monoclinic and belong to space group No. 14 P²1/c. The axes are a=5.24 Å, b=2a=10.48 Å, c=18.52 Å and  $\beta$ =107°.35. The presence of weak extra layer lines is interpreted as being due to a twinning or superstructure.

The external faces are (012) with its analogues."—Author's abstract.

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46795. MØLLER, E. SCHELDE. Robert Edwin Peary 1856–1920. (Grønland, July 1956, nr. 7, p. 251–58, illus., port.) Text in Danish.

Sketches life of R. E. Peary, his efforts to reach the North Pole, successful in 1909, his controversy with F. A. Cook, etc.

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MØLLER, HERLUF, see Bogen om Knud... 1945. No. 44073.

46796. MØLLER, JØRGEN KISBYE, 1915– . Fire år under det nye retssystem. (Grønland, May 1956, nr. 5, p. 161–72, illus.) Text in Danish. *Title* tr.: Four years under the new judicial system.

Under the judicial act of June 1951 there are 16 district courts and one court of appeal in Greenland, also a trained police force. In 1955, 11 of the 13 district judges were Greenlanders. The constitutional act of 1953, which made Greenland an integral part of Denmark, the criminal and marriage laws of 1954 (the latter in force 1955) are also considered. New court cases number 900–1000 a year, paternity and probate cases, the most common.

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46797. MØLLER, JØRGEN KISBYE, 1915- . Det grønlandske retsvæsen. (Grønland 1953, hefte 11, p. 425-31, illus.) Text in Danish. *Title tr.:* The Greenland judicial system.

The judicial system before and after the passing of the Administration of Justice Act in 1951 is outlined. Main features of this law are: the establishment of a court of appeal (Grønlands landsret, the Greenland High Court), district courts (one in each commune in West Greenland), and an independent police service. Greenland courts deal with every kind of case, whether Dane or Greenlander is involved, and the Greenlandic and Danish languages have the same status in the courts. The sittings are public and the accused has the right of counsel (usually a layman). All judges in Greenland, apart from the president of the "landsret," are laymen, and 10 of 16 district judges are Greenlanders.

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46798. MØLLER, JØRGEN KISBYE, 1915- Hvad nyt bringer arvelovsudkastet? (Atuagagdliutit: Grønlandsposten, May 3, 1956. Ukiut 96-iat, nr. 9, p. 5-7.) Text in Danish. *Title tr.:* What is new in the draft of the inheritance law?

This draft presented to the provincial council in 1954 states and clarifies the present inheritance practice which is described in detail: community of property between husband and wife is assumed; children born outside wedlock inherit from their fathers; spouse and children have rights to a part of the "estate" irrespective of any will. Certain differences between Danish and Greenland law due to local conditions are mentioned.

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46799. MOEN, OLAV. Erfaringer vedrørende frøavl av kjøkkenvekster i Norge. (Nordisk jordbrugsforskning, 1921. Aarg. 3, hefte 5-8, p. 110-16, table.) Refs in text. Text in Norwegian. Title tr.: Experience with seed production of kitchen vegetables in Norway.

Northern limit of growth for a large number of vegetables is beyond the Arctic Circle. Seed to be used there should be produced as far north as possible.

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46800. MÖRNER, CARL THORE, 1864—. Skisserad framställing af en högfjällsfärd i Lule Lappmark. (Svenska turistföreningen, Stockholm. Årsskrift, 1897, p. 113–22, 4 illus.) Text in Swedish. Title tr.: Brief presentation of a mountain journey in Lule Lappmark.

Route from Gällivare via Stora Sjöfallet, was south of Sarek and north of Sulitjelma to Furuland in Norway. Attempt was made to cross the upland in a new direction to add information on location of mountains, lakes, and other physical features then lacking. Provisions and equipment are listed.

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49801. MOGENSEN, PALLE. Polar (icecap) navigation. (Navigation, Mar. 1956. v. 5, no. 1, p. 30–33.)

Contains discussion of over-snow transportation in high-latitude icecaps, and outline of the procedures and techniques used in establishing and moving along a marked trail. The marked trail method, is used for peacetime travel through the dangerous "marginal or crevassed zone;" it enables movement of personnel and equipment on a scheduled basis over permanently covered snow and ice regions.

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**46802. MOHLING, FRANZ.** Mount Logan—Cook Expedition, 1953. (Mountaineer, Dec. 15, 1953. v. 46, no. 13, p. 29–34, illus.)

Activities of a five-man party, July-Aug. 1953 in the St. Elias Range, are described briefly. Objectives of the expedition included a first ascent of Mt. McArthur (14,400 ft.), a fourth ascent of Mt. Logan by a new route, and a first ascent of Mt. Cook (13,760 ft.). Illness and bad weather forced abandonment of the attempt on Mt. McArthur; and poor climbing conditions that on Mt. Logan. The summit of Mt. Cook was successfully reached on Aug. 1. Copy seen: DLC.

46803. MOISEEV, PETR ALEKSEE-VICH. Osobennosti dinamiki chislennosti promyslovol fauny v severo-zapadnol chasti Tikhogo okeana i ee prichiny. (Zoologicheskil zhurnal, Nov. 1956. t. 35, vyp. 11, p. 1601–607.) 12 refs. Text in Russian. Title tr.: Features of the dynamics in numbers of game fauna of the northwestern Pacific Ocean and their causes.

Deals with three species of Pacific salmon (Oncorhynchus), Pacific herring, Pacific cod and Kamchatka crab (Paralithodes camtschatica). Data on distribution, local swarming centers, seasonal migrations, propagation, spawning and growth rate are given. Fluctuations in the population, and steady decrease of certain commercially valuable fish (salmon) are discussed and analyzed. More scientific methods of fishery should be introduced to avoid depletion of the natural resources of Bering Sea and the northwest Pacific.

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46804. MOISEEV, PETR ALEKSEE-VICH. Promysel lososel v otkrytom more v severnol chasti Tikhogo okeana. (Rybnoe khozalstvo, Apr. 1956. god 32, no. 4, p. 54-59, tables, map.) Text in Russian. Title tr.: Salmon fisheries in the open sea of the northern part of the Pacific Ocean.

Contains information on the wintering and migration of the three main populations of North Pacific salmon (one southwest of the Aleutians, another east and southeast of the Kurils, the third south of the eastern Aleutians). Japanese and other fisheries in the area, their equipment, gear, methods and yields, also biological research, regulations, etc., are dealt with.

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MOISEEV, STEPAN ANDREEVICH, see Pakhtusov, P. K., and S. A. Moiseev. Dnevnye zapiski . . . 1956. No. 47229.

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MOISEEV, STEPAN ANDREEVICH, see also TSivol'ka, A. K., and S. A. Moiseev. Plavanie . . . k Novol Zemiê v 1838 i 1839 . . . 1845. No. 48485.

MOISEEVA, E. N., see Savich, V. P., and others. O . . . antibiotike iz lishaĭnikov . . . 1956. No. 47808.

46805. MOKIEVSKAĀ, V. V. Nekotorye dannye po khimii biogennykh ėlementov Beringova mora. (Akademia nauk SSSR. Institut okeanologii. Trudy 1956. t. 17, p. 176–91, illus., tables.) 13 refs. Text in Russian. Title tr.: Some data on the chemistry of biogenous elements of the Bering Sea.

A study of vertical distribution of elements of organic origin, phosphorus, oxygen and silica. Columns down to over 5000 m. are analyzed from a variety of stations. Seasonal differences in the upper layer of 200 m. were also investigated and the role of vertical circulation in their distribution, assessed. Conditions are compared with those in the Pacific. Based on work of the research vessel Vitiaz' in 1950-1953, and that of other Russian and American vessels in the 1930's.

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46806. MOLETT, WILLIAM EDWARD, 1919- . Celestial navigation in high latitudes. (Navigation, June 1956. v. 5, no. 3, p. 105–107, diagrs.)

Errors and safeguards in celestial navigation in high latitudes are discussed. Celestial is, and will probably remain, basic in polar navigation. Careful use of the sextant is stressed for successful polar missions.

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MOLEVA, V. A., see Semenov, E. I. Vinogradovit . . . 1956. No. 47893.

46807. MOLINARI, VINCENZO. Nouveaux essais d'action du froid sur les trophozoites de divers protozoaires parasites. (Société de pathologie exotique, Paris. Bulletin, 1956. t. 49, no. 2, p. 254-60, table.) 22 refs. Text in French. Title tr.: New studies on the action of cold upon the trophozoites of various parasitie protozoans.

Study on the critical effects of low temperatures (-20° to -180° C.) acting for various times upon trophozoites of the species Enlamoeba, Trypanosoma, Trichomonas, etc. Both slow and rapid freezing

and rewarming were applied, and their effects are evaluated.

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46808. MOLINARI, VINCENZO. Sur le comportement d'Entamoeba dysenteriae et d'E. invadens en présence de températures de -79° C. (neige carbonique) et de -180° C. (azote liquide). (Société de pathologie exotique, Paris. Bulletin, 1956. t. 49, no. 3, p. 532-40, table) 22 refs. Text in French. Title tr.: Behavior of Entamoeba dysenteriae and Envadens at temperatures of -79° C. (carbon dioxide snow) and -180° C. (liquid nitrogen).

A study of young and adult trophozoites suspended in various media, with and without addition of glycerol. Different stages of growth, having a different nuclear and cytoplasmic structure behaved differently with respect to survival after exposure to cold. Interspecific differences also explain variations in cold resistance.

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46809. MOLINARI, VINCENZO, and G. MONTEZIN. Sur le comportement de trypanosomes et de plasmodies soumis aux basses températures de la neige carbonique et de l'azote liquide. (Société de pathologie exotique, Paris. Bulletin, 1956. t. 49, no. 3, p. 445–50.) 3 refs. Text in French. Title tr.: Behavior of trypanosomes and plasmodia submitted to low temperatures of carbon dioxide snow and liquid nitrogen.

Account of experiments with seven species of plasmodia submitted with the infected, citrated blood to -79° and -180° C. and subsequently rewarmed to 37° C. With respect to cold-resistance, differences appeared between the individual species, conclusions affirming early observations of Laveran and Mesnil.

\*\*Copy seen: DNLM.\*\*

46810. MOLINARI, VINCENZO, and G. MONTÉZIN. Variations de la virulence de Trypanosoma congolense chez la souris après action d'un froid de —180° C. (Société de pathologie exotique, Paris. Bulletin, 1956. t. 49, no. 4, p. 651–54, tables.) 3 refs. Text in French. Title tr.: Variations in virulence of Trypanosoma congolense of mice following the action of —180° C. cold.

The parasite, dropped in little blood droplets directly into liquid N., preserved its virulence even after remaining three hours at -180°, and its action was not attenuated by the treatment. T. cruzi

treated in the same manner lost virulence in five minutes. Copy seen: DNLM.

MOLLISON, P. L., see Chaplin, H., and others. Preservation of red cells at -79 C. 1956. No. 44309.

46811. MOLNAR, GEORGE WILLIAM, 1914— Heat transfer through the hand. Fort Knox, Ky., 1956. 2, 45 p. illus. (Army Medical Research Laboratory, Project no. 6-64-12-028; report no. 249.) 17 refs.

A physical and physiological study of conditions in the steady and unsteady state. In the latter case heat transfer was found to be greatest at the moment of exposure to cold; subsequently it falls non-linearly due to the fall in surface temperature. The problem of cooling according to Newton's law is also analyzed and discussed.

\*\*Copy seen: DNLM.\*\*

**46812. MOLOCHKOV, SERGE**Ĭ. Neighbours across the Pole. (News, Oct. 1, 1955, no. 19 (102), p. 21.)

Reviews Russo-Canadian relations in exchange of visits, agricultural information, air travel, cultural and sports activities, etc.

Copy seen: DLC.

46813. MOLODYKH, IVAN FEDOROVICH, 1897— . Zadachi transportnogo stroitel'stva na Severo-Vostoke Ākutii. (Irkutsk. Universitet. Biologo-geograficheskii nauchno-issledovatel'skii institut. Izvestiâ, 1931, t. 5, vyp. 4, p. 3–23, tables, fold. map.) 5 refs. Text in Russian. Title tr.: Tasks of development of transportation in northeast Yakutia.

In 1928-29, a party of engineers and scientists headed by the author and sponsored by the Waterways Administration of the U.S.S.R. and the government of the Yakut A. S. S. R., investigated the economy and transportation of Kolyma and Indirgirka River basins. The expedition's work is outlined and results are reported of its study of the geographic, hydrological, economic, and demographic conditions in relation to The area is rich in transportation. forests, fur animals, gold and other minerals; but its development is retarded by lack of transportation. Three former routes to this area (one summer, two winter) were all based on Yakutsk; prior to World War I, two new routes were tried: one by sea from Vladivostok to the Kolyma River mouth, the other from Ola (59°35' N. 151°17' E.) on the Okhotsk Seacoast by taiga trails to the upper reaches of the Kolyma and downriver to Nizhne-Kolymsk. All these routes were studied by expedition of 1928-29 and the development of a modified Okhotsk Sea route was recommended with the starting point at Nagayeva Bay (59°31' N. 150°40' E.), with the sea route Vladivostok-Kolyma to be used as a subsidiary for transportation of heavy machinery and equipment. In the subsequent foundation of Magadan on Nagaveva Bay and construction of an automobile road from Magadan to Kolyma River, this recommendation seems to be realized. Limitations of dogsled transportation due to difficulties of feeding are discussed (p. 15-16). Fold. map shows the Kolyma-Indigirka economic area with scheme of its transportation. Copy seen: DLC.

MOLTKE, HARALD VIGGO, *Greve*, **1871**– , *see* Bogen om Knud . . . *1945*. No. 44073.

46814. MONCHADSKIĬ, ALEKSANDR SAMOĬLOVICH. Letaûshchie krovososushchie dvukrylye na territorii SSSR i nekotorye zakonomernosti ikh napadeniâ na cheloveka. (Ēntomologicheskoe obozrenie, 1956. t. 35, vyp. 3, p. 547–59.) 42 refs. Text in Russian. Summary in English. Title tr.: Blood-sucking flies in the U. S. S. R. and some habitual features of their attack on man.

A study based partly on observations in the Malozemel'skaya and Kola Peninsula tundras. There are two principal types of attack peculiar to these flies: an active search flight, characteristic of all blood-sucking flies; and the watch type observed in gnats, blackflies and midges. Light, temperature and some other factors regulate the interchange of these types.

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46815. MONOSZON, M. KH. Opisanie pyl'fsy vidov polynel, proizrastaûshchikh na territorii SSSR; dla fælele pyl'fævogo analiza. (Akademiña nauk SSSR. Institut geografii. Trudy, 1950, vyp. 46, Materialy po geomorfologii i paleogeografii SSSR; raboty po sporovopyl'fævomu analizu, 3, p. 271–339, illus., tables, maps.) 32 refs. Text in Russian. Title tr.: Description of the pollen of wormwood species growing in the territory of U. S. S. R. for purposes of pollen analysis.

Pollen analysis usually provides data only on the family, sometimes on the

genus, but rarely does it determine species of plants. Pollen of wormwood Artemisia, however, offers a good possibility to distinguishing species. division of this herbaceous and shrubby genus into sub-genera and species is their outlined; distribution in U. S. S. R. is shown (maps) and their pollen grains are described in detail required for tasks of pollen analysis. Artemisia arctica Less, A. norvegica Fries, A. Tilesii Ldb., A. glomerata Ldb., and other species occurring in the arctic and sub-arctic regions are included, their distribution in the Arctic of U. S. S. R. Copy seen: DLC. is shown.

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46816. MONOSZON, M. KH. Opisanie pyl'fsy vidov semeľstva marevykh, proizrastafúshchikh na territorii SSSR; dľať fseleľ pyl'fsevogo analiza. (Akademiíň nauk SSSR. Institut geografii. Trudy, 1952, vyp. 52, Materialy po geomorfologii i paleogeografii SSSR, 7, p. 127–96, 11 plates, tables, map.) 14 refs. Text in Russian. Title tr.: Description of pollen of species of the goosefoot family, growing on U. S. S. R. territory, for purposes of pollen analysis.

Some 350 species (in 50 genera) of the herbaceous family Chenopodiaceae Less. are native to the U. S. S. R. occurring in all parts of the country (see map p. 129); but in arctic and sub-arctic regions, only a few species are represented. Pollen grains and spores of approx. 120 species are described with notes on their occurrence.

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46817. MONSON, MELVIN A. Nesting of trumpeter swan in the lower Copper River basin, Alaska. (Condor, Nov.—Dec. 1956. v. 58, no. 6, p. 444–45.)

Contains field observation made in summers 1954 and 1955 on the breeding grounds of Cygnus buccinator in the region (61° N. 144°—145°30′ W.) where the Bremner and Tasnuna Rivers converge with the Copper. Some pairs of adults and cygnets were observed, a few nests were found and eggs measured; measurements of trumpeter swan and whistling swan eggs are tabulated. Earlier reports of the trumpeter swan are from Fort Yukon and Chickaloon Flats on the Kenai Peninsula.

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MONSON, MILDRED, see Irving, L., and others. Metabolism and insulation of swine . . . 1956. No. 45716.

46818. MONTALBANO, S., and F. VICARI. Ricerche sperimentali sugli effetti della ganglionectomia lombare e della simpaticectomia periarteriosa nel congelamento. (Rivista di patologia e clinica, 1956. v. 11, no. 1, p. 41–45.) 10 refs. Text in Italian. Title tr.: Experimental investigations on the effects of lumbar ganglionectomy and periarterial sympathectomy upon frostbite.

Account of experiments on dogs having their posterior extremities immersed in ice, after being submitted to the above operations. It is concluded from the results that sympathetic intervention reduces the lesions caused by wet cold.

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MONTERO, M., see Malmejac, J., and others. Action de l'"hypothermie provoquée" . . . 1956. No. 46583.

MONTERO, M., see also Malmejac, J., and others. Influence . . . hypothermie encéphalique . . . pression artérielle . . . 1956. No. 46586.

MONTERO, M., see also Malmejac, J, and others. Sur l'activité des centres nerveux vasomoteurs . . . hypothermie. 1956. No. 46589.

MONTÉZIN, G., see Molinari, V., and G. Montézin. Sur le comportement de trypanosomes . . . 1956. No. 46809.

MONTÉZIN, G., see Molinari, V., and G. Montézin. Variations . . . Trypanosoma congolense . . . -180° C. 1956, No. 46810.

MONTGOMERY, A. VERNON, 1922— see Blair, E., and others. Posthypothermic circulatory failure, 1; physiologic observations . . . 1956. No. 44047.

46819. MONTGOMERY, HUGH, 1904 - Experimental immersion foot in the rabbit. (In: Conference on Cold Injury. 4th, Nov. 7–9, 1955, Princeton, N. J., Transactions, pub. 1956, p. 173–95, illus.) 4 refs.

Account of experiments with rabbits having one leg exposed to water of 3° C. while the other served as control. Cold immersion lasted from 4 to 120 hrs. Temperature changes of the muscle, subcutaneous area and of the body of the experimental limbs and controls were recorded as well as O<sub>2</sub>-tension in the muscle during air and oxygen inhalation. Gross and microscopic pathological

changes in the affected tissues are also demonstrated and discussed.

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46820. MONTINI, TULLIO, and G. PAOLETTI. Comportamento del cuore isolato nella ipotermia artificale. (Archivio di fisiologia, Oct. 1955. v. 55, fasc. 3, p. 230-42, illus.) 8 refs. Text in Italian. Summary in English. *Title tr.:* Behavior of the isolated heart during artificial hypothermia.

Contains a study of perfused hearts isolated from hypothermic (23°) rabbits as compared to similar hearts first perfused at 38° C. and then cooled to 23° C. The comparisons were based on MCG and ECG records. Copy seen: DNLM.

46821. MONTINI, TULLIO, and G. PAOLETTI. Effetto di mediatori chimici sul euore isolato di coniglio in ipotermia artificiale. (Archivio di fisiologia, Oct. 1955. v. 55, fasc. 3, p. 218-29, illus.) 9 refs. Text in Italian. Summary in English. Title tr.: Effect of chemical mediators on the isolated rabbit heart during artificial hypothermia.

An ECG and MCG study on the effects of different doses of adrenaline and acethylcholine on the isolated heart of hypothermic (23° C.) animals. A higher sensibility to both drugs was noted, "but only as regards frequence and rhythm."

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46822. MONTINI, TULLIO. L'elettrocardiogramma in corso di riflesso senocarotideo e manovra di Hildebrand in ipotermia artificiale. (Minerva anestesiologica, 1956. anno 22, no. 10, p. 336– 38, illus.) 7 refs. Text in Italian. Summary in English. Title tr.: The e'ectrocardiogram during the carotid sinus reflex and Hildebrand's reflex in artificial hypothermia.

In normothermic dogs both reflexes cause electrocardiographic changes. In anesthetized animals made hypothermic, neither of the hemodynamic changes caused an ECG response.

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46823. MOODY, ALTON B., 1911 ... The Pfund sky compass. (International hydrographic review, Nov. 1950. v. 27, no. 2, p. 62-66).

The origin, operation, and limitations of this compass, which is particularly useful in arctic navigation, are described. The instrument utilizes the polarization of sky light to determine the sun's

azimuth even with the sun below the horizon; it is thus useful during polar twilight. The device which originated with Dr. A. H. Pfund at Johns Hopkins University, in 1944, was developed by the U. S. Bureau of Standards after the war and the compass was tested and proven satisfactory by the U. S. Air Force Ptarmigan flights from Fairbanks to the North Pole.

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46824. MOODY, ALTON B., 1911—. Recent developments in polar navigation. (International hydrographic review, Nov. 1950. v. 27, no. 2, p. 67-69.)

Problems of polar aerial navigation and recent improvements in techniques and equipment designed to improve navigation are discussed briefly. Determination of direction is the principal problem. Directional gyros, and during twilight the use of the Pfund sky compass, have solved this problem to a great extent. Present charts of polar areas are adequate for celestial navigation in the Arctic.

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46825. MOON, A. E. The removal of frost and ice from sunshine spheres. (Weather, May 1956. v. 11, no. 5, p. 168.)

Contains a brief description of various methods for removing frost and ice from the surface of Campbell-Stokes sunshine recorders. The most successful method appears to be to pour about a teaspoonful of alcohol over the top of the sphere in situ and allow it to run completely over the deposit.

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46826. MOORE, HARVEY L. Some observations on factors affecting management of the pink salmon fisheries of southeastern Alaska and northern British Columbia with reference to the even years, 1940–1952. (*In:* Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 75.)

An increase in pink salmon production since 1946 and druing the even years with a concurrent decrease in Southeast Alaskan waters is reported. Environmental factors, fishing effort, regulations, etc. are compared in both areas.

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46827. MOORE, JOHN CARMAN GAILEY, 1916— Courageous-Matthews Lakes area, District of Mackenzie, Northwest Territories. Ottawa, Queen's Printer, 1956. 52 p. 7 illus. on 4 plates, 5 maps (4 fold.), diagrs., 11 tables.

(Canada. Geological Survey. Memoir 283) 44 refs.

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Contains results of detailed field studies 1944-1951, to assist in exploration of gold deposits, in the area  $63^{\circ}56'-64^{\circ}19'$  N. 111°00'-30' W., 150 miles northeast of Yellowknife. All consolidated are Precambrian (probably Archean), except for some diabase dikes. Oldest are lava flows conformably overlain by sedimentary rocks, both of the Yellowknife group. Strata have been closely folded and invaded by granodioritic and dioritic Large areas have been meta-Strata have also been morphosed. intruded by meta-gabbro sills and masses of felsic porphyries. Diabase and gabbro dikes, youngest consolidated rocks, are probably Proterozoic. Gold deposits occur at intervals along the strike of the contact of the volcanic and sedimentary The quartz occurs as fairly rocks. persistent veins and as veinlets and lenses in shear zones. Gold deposits owned by the various mining companies are described; also, very briefly, copper and molybdenum occurrences.

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46828. MOORE, JOSEPH CURTIS, 1914- , and R. S. PALMER. More piked whales from southern North Atlantic. (Journal of mammalogy, Aug. 1955. v. 36, no. 3, p. 429-33, illus.) 8 refs.

Description of a piked whale Balean-optera acutorostrata stranded on a Florida key (24°41′ N. 81°14′ W.) and a skeleton of another one found nearby. Anatomical details of the head and especially the tympanic region are presented. The animal stranded in December; the species spends the summer in arctic waters.

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46829. MOORE, PERCY ELMER, 1899 - Medical care of Canada's Indians and Eskimos. (Canadian journal of public health, June 1956. v. 47, no. 6, p. 227–33, map.)

Introductory sketch of the Canadian Indians and Eskimos prior to the white man's advent and the impact of the latter on native health, is followed by account of general policies and administration; the development and functions of the Indian and Northern Health Service; nature of social and medical aid to Indians and Eskimos; tuberculosis and care of it; health service during 1955; public health education.

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46830. MOORE, PHILIP HANCE, 1904- Public relations with the native. (In: Alaskan Science Conference . . 1952. Proceedings, pub. 1954, p. 38-39.)

Deals with the attitudes of whites toward Alaskan natives, the latter's happy-go-lucky philosophy, their thoughts on white men's religion, their relations with the traders, effects of alcohol, the natives' future as the white man advances throughout the Territory.

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MOORE, PHILIP HANCE, 1904—, see also Coddington, F. L., and P. H. Moore. Echinococcus cysts in human beings. 1954 No. 44401.

46831. MOORE, R. E. Hypoxia, oxygen consumption and body temperature in newborn kittens. (Journal of physiology, Sept. 1956. v. 133, no. 3, p. 69P-70P.) 3 refs.

Rectal temperature fell in response to hypoxia in kittens up to three weeks old. The extent and rate of fall were found to be associated with the level of hypoxia and the degree of depression in metabolism, and also with the age and initial temperature.

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**46832. MOORE, ROY E.** Our arctic problem. (Ordnance, Sept.–Oct. 1949. v. 34, no. 176, p. 112–14, illus.)

Contains discussion of preparations for the ground defense of Alaska. Exercises conducted by the United States Army are briefly reviewed and the acclimatization phases of training are outlined. The need for better snow vehicles is emphasized.

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46833. MOORE, TERRIS, 1908—. Facilities of the Mt. Wrangell interuniversity research observatory. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 118–22.) ref.

The Alaskan mountains are important to cosmic ray research because they combine high geomagnetic latitude and high altitude. Favorable conditions on Mt. Wrangell (62° N. 144° W.) are noted. Establishment of the observatory by aerial supply in summer 1953 is described, also its living accomodations and scientific facilities. Mt. Wrangell area is compared with the Tibetan Plateau.

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46834. MOORE, TERRIS, 1908-, and A. H. MICK. The future of agri-

cultural education in Alaska. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 95–97.)

Post-war agricultural research program has the aim to increase production from 15-20 percent to 45-50 percent of Alaska's food requirement. Experimental work at stations in Matanuska and near Fairbanks, largely supported by Congress, has been increased. Lack of capital and unstable market conditions remain the farmer's major problems. Agricultural education at the University of Alaska is outlined: annual enrollment of 40-50 is anticipated; general course is offered. Specialized studies must be carried on outside Alaska; but specialized guidance for farmers and home gardeners is recommended through the Agricultural Extension Service. Copy seen: DGS.

46835. MOORE, W. ROBERT. Alaska, the big land. (National geographic magazine, June 1956. v. 109, no. 6, p. 776–807, 27 illus. (22 col.)) 8 refs. Popular description of author's trip to Fairbanks, Fort Yukon, Circle Hot Springs, Kotzebue, Nome, Barrow, Anchorage, Homer, Kodiak, Juneau, and Sitka; with comments on air transportation, development of Alaskan resources, standard of living in the larger towns, etc. Copy seen: DGS.

MOORHEAD, P. S., see Pomerat, C. M., and P. S. Moorhead. Thermal stress and tissue culture, 7 . . . glycerol . . . protection against freezing. 1956. No. 47401.

46836. MOORHOUSE, M. D., and J. H. SHEPHERD. Geology of the California Lake area, Oxford Lake mining division, northern Manitoba. Winnipeg, Queen's Printer, 1954. 22 p. fold. map 32 x 53 in., tables. (Manitoba. Dept. of Mines and Natural Resources. Mines Branch. Publication 53–3) 9 refs.

Map (scale 1 in.: 1/2 mi.) covers the area 55°00'-20' N. 95°30'-45' W. Field mapping was done in summer 1953. Means of access, physical features are described. All consolidated rocks are Precambrian. Oldest are two belts of metamorphosed sediments and volcanics. andesites and basalts being dominant. Age relations of the granitic rocks which underlie most of the area are not clearly established. A diabase dike, crosses the northern map-area. Glacial deposits, swamps and muskegs mantle the area, bedrock outcrops are few. Small-scale faulting is common, and three major faults were mapped in southern volcanicsedimentary belt. No promising mineralized areas were seen.

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MOOY, HENRIËTTE. 46837. Naar Groenland met de Frankendaal. torisch verhaal naar het Journaal van Commandeur Maarten Mooy, behelzende zijne uitreize van Amsterdam den 22sten April 1786, zijne bezetting in het ijs, zijne rampspoeden in zee en behouden aankomst voor Amsterdam op 28 Februari 1787. 2. herziene en verm. druk. Amsterdam, Wereldbibliotheek, 1946. 101 p., illus., facsims. 10 refs. Text in Dutch. Title tr.: To Greenland with the Frankendaal; an historical narrative based on the journal of Commander Maarten Mooy concerning his journey from Amsterdam on the 22nd of April 1786, his being ice-bound, his adversities on the sea, and safe return to Amsterdam on February 28th, 1787.

Graphic account of life on an 18th century whaling boat, whaling and its methods, organization of the trade, sea and weather conditions, etc.; also information on Captain Mooy and his vessel. This is a slightly enlarged second edition

of a book pub. in 1942.

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**46838. MORGAN, A. W.** Need of a positive approach for the education of all youth within the Anchorage area. (*In:* Alaskan Science Conference . . . 1952. Proceedings, *pub.* 1954, p. 91–94.)

The expansion of Anchorage and increase in its population is reported; and the inadequacy of school accommodation and of facilities, and methods, particularly in the secondary schools, is stressed. Young people as a natural resource and their need of education for the future are discussed. A community college should be established, extending education for two years beyond Grade 12, and providing vocational as well as academic courses. Copy seen: DGS.

46839. MORGAN, EDWARD E. P., d. 1939. God's loaded dice: Alaska 1897– 1930. In collaboration with Henry F. Woods. Caldwell, Idaho, Caxton Printers, 1948. 298 p. illus.

Recounts author's experiences during the Klondike Gold Rush, 1897-1900: his passage to Skagway, trip over White Pass to the Yukon, prospecting and freighthauling at Dawson. Subsequently he worked on various vessels of the Alaska Steamship Co. and describes shipping practices, notable skippers and wrecks in Alaskan waters, etc. An anecdotal narrative, informative on conditions, individual places in Alaska.

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46840. MORGAN, JOSEPH FRANCIS, 1918—, and others. The effect of low temperature and storage on the viability and mouse strain specificity of ascitic tumor cells. (Cancer research, Oct. 1956. v. 16, no. 9, p. 907–911, illus.) 19 refs. Other authors: L. F. Guerin and H. J. Morton.

Three different tumor cells, frozen in medium M150 plus 20 percent glycerol and then stored at —70° C. for six months, showed no reduction of viability. But two tumors became non-specific and could be transplanted interchangeably and apparently indefinitely. The loss of specificity appeared to occur during freezing and thawing, is irreversible, and not associated with change in chromosome number of the cells.

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46841. MORGAN, JOSEPH M. Water power resource investigations in Alaska. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 21.)

Sites investigated by the Bureau of Reclamation include Eklutna, Swan Lake, Dorothy Lake, Blue Lake, and the entire Susitna River. It is planned to construct a concrete arch dam 156 ft. high for the Swan Lake project 22 miles northeast of Ketchikan. The Blue Lake project near Sitka would consist of a concrete arch dam 240 ft. high above stream bed, creating a reservoir of approx. 300,000 acre ft. Copy seen: DGS.

46842. MORGAN, JULIET, and E. L. KEITHAHN. Alaska and Hawaii. New York, Macmillan, 1956. 312 p. illus., text maps. (Around the world; a series of geography readers.)

A textbook for children which includes (p. 10–139) a survey of Alaska, includes incation, physical geography, government, native population, discovery and exploration, the Gold Rush and present gold mining, transportation facilities, Eskimo and Indian living conditions and customs, agriculture, cites.

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46843. MORGAN, ROBERT. World sea fisheries. London, Methuen, 1956.

14, 307 p. illus. tables, maps. Approx. 130 refs.

A concise and informative survey of sea fisheries of major areas, their relative importance, and basic reasons for their varying character. Section 1 (p. 3-62) deals with physical and biological factors affecting fisheries; plankton; coastal fishing areas; economically important sea fish; world production and potential. Section 2 (p. 65-152) covers fishing methods, etc. including processing, transport, harbors, etc. In section 3 (p. 155-292) the fishing industry is presented according to continental regions; arctic fisheries, consequently, are treated under the Asian, European and North American regions, as well as in scattered references throughout the first two sections. southern whaling regions are dealt with (p. 279-83); changing aspects of fisheries are noted: in conservation, fish-farming, technical devices, etc. Appended are tabular data of recent catches of countries producing over 5,000 tons, including several wth arctic fishing grounds.

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46844. MORGENBLADET. Skogbruget i 1908; Morgenbladets aarsoversikt. (Tidsskrift for skogbrug, Feb., 1909. Aarg. 17, nr. 2, p. 49–56). Text in Norwegian. Title tr.: Forestry in 1908; Morgenbladet's annual summary.

Includes reference to a considerable amount of seed on pine trees in Troms in 1908.

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46845. MORI, GENJI. Studies on the cold preservation of blood; especially on the changes of erythrocytes stored in the supercooled state. (Teion kagaku, Low temperature science, Sapporo, 1956. v. 14, ser. B., p. 47–73, illus., table.) 48 refs. Text in Japanese. Summary in English.

\* Account of investigation on human, bovine, dog and rabbit blood preserved in citrate, ACD and EDTA solutions at temperatures of +5° C. and —5° C. Tests were applied at weekly intervals during a storage period of 5–6 weeks. Decrease in number of red cells, hemolysis, osmotic fragility, cell volume and pH at both temperatures were determined and compared. As viewed from the standpoint of hemolysis, a storage temperature of +5° C. proved more advantageous for human and bovine blood, less so for that of the dog and rabbit. \*\*Copy seen: DLC.

MORI, GENJI, see also Nei, T., and others. Protective . . . winter clothes . . . skin temperature . . . cold. 1956. No. 46972.

46846. MOROZ, I. Diffichi avtomatychni meteostan sii. (Ukraina, Aug. 1956, no. 15 (174), p. 27, illus.) Text in Ukrainian. *Title* tr: Automatic

meteorological stations.

Describes apparatus recently built at the Arctic Institute. The station, mounted on an ice floe, transmits daily weather data (air temperature and pressure, wind velocity and its direction in relation to the magnetic meridian); it also responds to call from shore; its battery (dry cells) and clock mechanism in a hermetically sealed container are submerged in sea water below the ice. Illus. shows two such stations set up in the vicinity of drifting station "North Pole-4," with their constructor, \(\hat{\text{U}}\). K. Alekseev, standing by.

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46847. MOROZOV, O. S. Zemel'nye fondy i voprosy zemleustroïstva kolkhozov ûîgo-zapadnykh rafonov ÎAASSR. (Akademiâ nauk SSSR. ÎAkutskiî filial, Yakutsk. Trudy, 1956. vyp. 1, Materialy o prirodnykh usloviîâkh i sel'skom khozîâfstve iugo-zapada ÎAkutskoî ASSR, p. 103–134, tables, maps incl. 1 fold.) Text in Russian. Title tr: Land reserves and problems of land organization in the kolkhozes of the southwestern districts of the Yakut A. S. S. R.

Information and data are presented on the main land uses; areas and structure of the reserves; location of the kolkhozes and reserves (fold. map); production types and size of kolkhozes; production and territorial problems; basic aims of land organization in the kolkhozes. The study aims at establishing landorganization measures based on concrete economic and natural conditions in the Olekminsk and Lensk districts of the middle Lena basin. Copy seen: DLC.

**46848.** MOROZOV, P. Radisty kitobolnol flotilii "Slava." (Radio, Apr. 1956, no. 4, p. 7, illus.) Text in Russian. *Title tr:* Radio operators of the whaling fleet *Slava*.

Notes by the fleet's radio chief; contact between the Slava, operating in the Antarctic, and Drifting Station "North Pole-5."

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46849. MOROZOV, SAVVA TIMO-FEEVICH, 1911 - Goroda zapolíarnogo krafa. (Ogoněk, Apr. 1956. god 34, no. 16, p. 1–3, illus.) Text in Russian. Title tr: Arctic towns.

Sketches development of industry in Khibiny Tundra on Kola Peninsula and the new towns of Kirovsk, Monchegorsk and Olenegorsk. Copy seen: DLC.

46850. MOROZOV, SAVVA TIMO-FEEVICH, 1911-. On the radio watch at the Pole. [Ottawa] Canada, April 1955. 8 p. (Canada. Defence Research Board. Defence Scientific Information Service. T183R.)

Translation, without illus., of Arctic

Bibliography No. 36345.

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46851. MOROZOV, SAVVA TIMO-FEEVICH, 1911- . PolíarnoI noch'ín nad okeanom. (Ogoněk, Mar. 1956, god 34, no. 11, p. 28, illus.) Text in Russian. *Title tr:* In polar night above the ocean.

The radio of the polar station on Ushakova Island went silent in winter 1955-56(?). Petr Pavlovich Moskalenko, the flyer who had set up the station two years ago, made an emergency trip with new radio equipment. Difficulties of flight and landing on the glacier by dark without ground signals are noted.

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46852. MOROZOV, SAVVA TIMO-FEEVICH, 1911— . Tri dreifurushchie stantšii. (Ogonëk, Apr. 1956, god 34, no. 15, p. 4, illus.) Text in Russian. Title tr: Three drifting stations.

Notes activities of drifting stations "North Pole-4" "North Pole-5," and "North Pole-6;" also departure of the (second) relief party for "North Pole-4," headed by oceanologist Aleksandr Gavrilovich Dralkin, who had previously spent a year at this station.

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46853. MOROZOV, SAVVA TIMO-FEEVICH, 1911— . U poslednikh parallelet; na dreffuûshchikh l'dakh okeana. Moskva, Voennoe izd-vo, 1956. 244 p. ports., plates, maps. Text in Russian. Title tr.: At the last parallels; on the drifting ice of the ocean.

Popular sketches of recent Soviet arctic exploration by a journalist who has participated in several arctic undertakings since 1937, among them the reconnaissance flight along the Northern Sea Route from Arkhangel'sk to Bering Strait in 1947, the high latitude flights in 1948 and 1949, the setting up of the drifting stations "North Pole"-2, -3, and -4. Several arctic flyers are characterized: Babushkin, Vodop'anov, Titlov, Cherevichnyl, Kozlov, etc. Difficulties in landing and take-off in arctic conditions are indicated. Polar stations and harbors of the Northern Sea Route are noted. Organization of drifting stations, expedition leaders, station personnel, their living conditions, etc., are outlined. Meteorological, aerological, bathymetric, geomagnetic explorations are sketched. Discovery of the submarine Lomonosov Range, discovery and origin of ice islands, new bathymetric map of the Arctic Basin, etc., are discussed. In the preface (p. 3-6), Academician D. I. Shcherbakov warmly recommends the book, which is extensively illustrated with photographs. Copy seen: DLC.

46854. MOROZOVA, M. E. Kholodostoľkosť faits Diphyllobothrium latum. (Akademifa nauk SSSR. Karelo-Finskiľ filial, Trudy 1956. vyp. 4, ser. parazitologicheskafa, p. 74-81, illus. tables.) 8 refs. Text in Russian. Title tr.: Cold resistance in eggs of Diphyllobothrium latum.

A study of eggs of this tapeworm exposed to temperatures of -1.5 to  $-12^{\circ}$  C. The eggs were at various developmental stages and exposure time varied from one hour to 18 days; results varied accordingly. Eggs did not survive the arctic winter in feces or at the bottom of small water pools. **Copy seen:** DLC.

46855. MOROZOVA-TUROVA, L. G. Lesnoï lemming na Kamchatke. (Priroda, Aug. 1956. god 45, no. 8, p. 116.) Text in Russian. *Title tr.:* The forest lemming in Kamchatka.

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Contains record of the find of Myopus schisticolor in the Kronotskiy reserve, Kamchatka Peninsula, in 1949. Though this lemming is known from northern U. S. S. R. (from Kola Peninsula to the Okhotsk Sea), it had never been recorded in Kamchatka.

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MORRIS, GEORGE C., see Moyer, J. H., and others. Renal . . . response to hypothermia and ischemia . . . 1956. No. 46876.

MORRISON, JOHN ALEXANDER, 1903-, see Bal'zak, S. S., and others.

Economic geography . . . U. S. S. R. . . . 1952. No. 43857.

MORROW, ANDREW G., see Radigan, L. R., and others. Myocardial failure . . . experimental hypothermia. 1956. No. 47497.

MORROW, ANDREW G., see also Radigan, L. R., and others. The prevention of ventricular fibrillation . . . hypothermia. 1956. No. 47498.

MORROW, JAY JOHNSON, 1870–1937, see U. S. Alaska Railroad Commission. Railway routes in Alaska . . . 1913. No. 48534.

**46856. MORTIMER, S.** The processing of mineral claim survey returns. (Canadian surveyor, Jan. 1956. v. 13, no. 1, p. 20-22).

Procedures for staking mineral claims in the Yukon and Northwest Territories and the processing of mineral claim surveys (by the Legal Surveys Section, Canadian Dept. of Mines and Technical Surveys) are described. A mineral claim is legally defined as measuring 1500 x 1500 ft. After staking a claim, a legal survey by a qualified Dominion Land Surveyor is required to obtain a lease to mineral rights. The survey, and field notes are examined by a 91-point schedule. After approval of the Surveyor General, a copy of the surveyor General, a copy of the survey plan must be displayed on the claim for a period of 60 days.

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46857. MORTON, CONRAD VERNON, 1905- . On the name of the oak fern. (Rhodora, June 1941. v. 43, no. 510, p. 216-19).

Deals with identity and synonymy of Dryopteris disjuncta n. comb., originally described as Polypodium dryopteris L. "The name disjuncta was based on specimens from Sitka, Alaska . . . Such forms occur in Idaho, British Columbia, and Alaska, and doubtless in Siberia and elsewhere."

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MORTON, HELEN J., see Morgan, J. F., and others. The effect of low temperature . . . ascitic tumor cells. 1956. No. 46840.

46858. MOSBY, HÅKON, 1903— . Oceanographical investigations at Weather Ship Station M, 66° N. 2° E. Bergen, Feb. 1954. 8 p. illus., 2 tables. (Bergen, Norway. Universitetet. Årbok; naturvitenskapelig rekke, 1953. nr. 10.)

Describes the history, personnel, equipment, finances and operations of the oceanographic work 1947-54. Annual budget, work in marine biology and physical oceanography are reviewed, including stations, drift bottle release (11 series of five each month), radiation and light penetration measurements, wind drift, pollen grain, plankton, surface temperature measurements, etc. Bottom topographic map in area was developed by echo-soundings. Bad weather reduced planned program very little. Routine shore analysis of data made at a well equipped laboratory at the Geophysical Institute at Bergen.-From Meteorological abstracts & bibliography, Feb. 1956. v. 7, no. 2, p. 157.

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MOSETTI, PIETRO, see Taddei, C., and others. Studio dei fenomeni che accompagnano la ipotermia dell'encefalo . . . 1956. No. 48331.

46859. MOSEVICH, P. I. Mekhanizatsifa zimnet splotki lesa. (Lesnafa promyshlennost', Oct. 1954. god 14, no. 10, p. 22–26, illus. diagrs.) Text in Russian. Title tr.: Mechanization of winter log bundling for rafts.

Methods are described for sorting logs and chaining them in the bundles (20–25 cu. m.) for storage and early spring transportation down the river. Tractors and winches are widely used as man-power substitutes. Low ground, flooded in spring, is selected for systematic bunching of the logs for rafting.

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46860. MOSKVA. AVTOMOBIL'NO-DOROZHNYĬ INSTITUT. Opredelenie modulfă deformatsii gruntov. Sbornik stateI. Moskva, Nauchno-tekhnicheskoe izd-vo avtotransportnol lit-ry, 1955. 80 p. illus., tables, graphs, 24 refs. Text in Russian. Title tr.: Determination of modulus of deformation of ground; a collection of articles.

This collection of eight papers discusses the theory of strength of non-rigid road surfaces and methods of its determination. Special attention is given to the modulus of deformation (proportionality) determined experimentally for various climatic and hydrological conditions. The experimental laboratory and field data are analyzed and compared with re-computed data on old roads under similar conditions.

Each article is analyzed under its author's name, viz. (title tr.):

BABKOV, V. F. Methods of determination of rated values of moduli of soil deformation. p. 5-16.

IVANOV, N. N. Determination of modulus of deformation of beds for non-rigid road surfaces. p. 17-21.

CHERKASOV, I. I. Mechanical properties of soil foundations deforming under compression. p. 22–28.

BİRULIA, A. K., and V. D. ZIN-CHENKO. Applicability of modulus of deformation to characteristics of mechanical properties of soils and road surfaces. p. 29–36.

PUZAKÔV, N. A. Determination of rated value of modulus of soil deformation in respect to natural conditions and road construction. p. 37-41.

road construction. p. 37-41.
SMIRNOV, A. S. Rated value of modulus of deformation in ground beds for concrete road surfaces. p. 42-58.
TROITSKAIA, M. N. Method of

TROITSKAIA, M. N. Method of determination of modulus of deformation of soil in dirt roads. p. 59–68.

GERBURT-GEÏBOVICH, A. V., and P. B. BABAKHANOV. Moduli of deformation of saline soils. p. 69-79. Copy seen: DLC.

MOSKVA. TSENTRAL'NYĬ INSTITUT POGODY, see Khromov, S. P. Sinopticheskie professy Dal'nego Vostoka. 1940. No. 45971.

46861. MOSKVA. VSESOŪZNAĀ SEL'SKOKHOZĀĪSTVENNAĀ VYSTAVKA, 1954— . Pavil'on Dal'nit Vostok; putevoditel'. Gos. izd-vo kul'turno-prosvet. lit-ry, 1955. 56 p. illus. Text in Russian. *Title tr.:* Pavilion of the Far East; a guidebook.

Includes notes on the exhibition halls of Magadan Province (p. 32-36) and Yakut A. S. S. R. (p. 51-56). Activities of two state farms and 62 collective farms in Magadan Province and 410 collective farms in Yakutia are briefly reported; potato growing and animal husbandry in the far North, reindeer breeding and hunting in the Anabar District of Yakutia and successful operations of the Yakut State Agricultural Station (ÎAkutskaî gos. selektsionnaîa stantsiaî) are mentioned.

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46862. MOSKVA. VSESOŪZNAIĀ SEL'SKOKHOZIĀISTVENNAIĀ VYS-TAVKA, 1954— . Pavil'on Gidrometsluzhba; putevoditel'. Moskva Gos. izdvo sel'skokhoz. lit-ry, 1956. 16 p. illus. Text in Russian. *Title tr.*: The pavilion of the "Hydro-meteorological Service"; a guidebook. Prepared by O. V. Nekhotaeva.

Includes brief description of the exhibit on the drifting stations "North Pole" 1-5, at the All-Union Agricultural Exhibition; and on the results of their explora-

tion in the Arctic Basin.

46863. MOSKVA. VSESOŪZNAĀ SEL'SKOKHOZĀĪSTVENNAĀ VYS-TAVKA, 1954— Pavil'on Karelo-Finskafa SSR; putevoditel'. Moskva,

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Gos. izd-vo sel'skokhoz. lit-ry, 1955. 56 p. ports., illus., plan. Text in Russian. *Title tr.*: The Karelo-Finnish SSR. pavilion; a guidebook. Prepared by A. P. Kekkonen; P. A. Bereznîâk,

editor.

Includes (p. 42-52) brief account of the operations of the Kem' Motor-Fishing Station with notes on its personnel, and of several Kem' District fishers' collectives operating in the White and Barents Seas; hunting, trapping and fur farming in the far North of area is mentioned.

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46864. MOSKVA. VSESOŪZNAĀ SEL'SKOKHOZĀĪSTVENNAĀ VYSTAVKA, 1954—. Pavil'on Karelo-Finskaā SSR; putevoditel'. Moskva, Gos. izd-vo sel'skokhoz. lit-ry, 1956. 19 p. illus. Text in Russian. Title tr.: The "Karelo-Finnish S. S. R." pavilion; a guidebook. Prepared by P. A. Bereznāk, A. G. Kuchepatov, editor

Includes notes on the activities of the Kem' Motor-Fishing Station which serves eight fishers' collectives on the White Sea coast; fishing methods, mechanization, average catch/net throw, etc., are given, 55,357 cwt. fish from White and Barents Sea were delivered by these collectives in 1955.

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46865. MOSKVA. VSESOŪZNAĀ SEL'SKOKHOZĀĪSTVENNAĀ VYSTAVKA, 1954—. Pavil'on Leningrad i Severo-Zapadnye oblasti; putevoditel'. Moskva, Gos. izd-vo sel'skokhoz. lit-ry, 1956. 30 p. illus. Text in Russian. Title tr.: The "Leningrad and Northwestern Provinces" pavilion; a guidebook. Prepared by A. E. Novikov, F. D. Khokhlov, editor.

Includes (p. 28-29) brief characterization, with some statistical data, of the industrial and agricultural development in Murmanskaya Oblast' (Kola Peninsula). Activities of the Polar Experimental Station of the Institute for Plant Breeding are mentioned.

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46866. MOSKVA. VSESOŪZNAĀ SEL'SKOKHOZĀĪSTVENNAĀ VYS-TAVKA, 1954—. Pavil'on Sibir'; putevoditel'. Moskva. Gos. izd-vo sel'skokhoz. lit-ry, 1955. 62 p. illus. Text in Russian. *Title tr.:* Pavilion of Siberia; a guidebook.

Notes on agriculture, fruit and vegetable growing and animal husbandry in Omskaya and Krasnoyarskiy Provinces are included; the part of the exhibit on the collective farm "Novyy Put" (New Way) in Taymyr National District is pointed out (p. 61) with mention of the hunting, fishing and earnings of its members.

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46867. MOSKVA. VSESOŪZNAĀ SEL'SKOKHOZĀĬSTVENNAĀ VYSTAVKA, 1954—. Pavil'on sobakovodstvo; putevoditel'. Moskva, Gos. izd-vo sel'skokhoz. lit-ry, 1956. 27 p. illus. Text in Russian. Title tr.: The "dog breeding" pavilion; a guide book. Prepared by N. M. Logunov.

Includes note on transport dogs in Kamchatka, Yakut A. S. S. R., and other regions of the far North (p. 12-14); the average load/dog is estimated at 40-50 kg.; with a light load, a dog may cover

180-200 km. in a day.

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46868. MOSKVIN, B., and A. FILI-PENKO. K vershinam vulkanov; ocherk. (Dal'nii Vostok, Jan.-Feb. 1956. god 24, no. 1, p. 130-37.) Text in Russian. *Title tr.:* To the summits of volcanoes; a sketch.

Account of the authors' Kamchatka trip with a party of the First Far East Alpine Expedition in 1955 (Pervaß dal'nevostochnaß al'piniada). The arrival at Petropavlovsk, ascent of Koryakskaya Sopka, journey to Ust'-Kamchatsk and up the Kamchatka River to the village of Klyuchi (Kamchatka Volcanological Station), and ascent of Klyuchevskaya Sopka are described. Features of the landscape, settlements, local fishermen, etc., are noted. Difficulties encountered in the ascent of Klyuchevskaya Sopka are described with some detail. A scientific session was held at Klyuchi to

commemorate the twentieth anniversary of the foundation of the station.

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46869. MOSKVIN, V. M., and S. N. KOROTKOV. O primenenii bystrotverdeûshchego betona v kholodnoe vrema goda. (Stroiteľ na promyshlennosť, Sept. 1956. god 34, no. 9, p. 27–31, table, graphs.) 9 refs. Text in Russian. Title tr.: The use of quick-setting concrete during cold weather.

Various types of fast-hardening concrete, used in different countries are rereviewed in comparison with those developed in the U.S. S. R. Due to general reduction of cost, winter construction has increased appreciably. Different compositions, additives (CaCl<sub>2</sub> and gypsum) and methods were studied and the results are tabulated and graphically correlated with the relative compression factor. Steam heating of concrete is used only under conditions of prolonged freezing. The effects of initial freezing upon the final strength of concrete are given for various compositions.

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46870. MOSKVITIN, A.I. "Led@nye" klin'@: klinovidnye treshehiny i ikh stratigraficheskoe znachenie. (Moskovskoe obshehestvo ispytateleľ prirody. Bŵlleten', 1940. Otdel geologicheskil, t. 18, no. 2, p. 55–72, 12 illus.) 13 refs. Text in Russian. Summary in German. Title tr.: "Ice" wedges: wedged crevices and their stratigraphic significance.

Contains description of ice wedges of various types found in central and northern Russia, similar to those found in the permafrost regions of northern Alaska. Analysis of the stratigraphic, morphologic evidence, loess and latest glacial moraine deposits on the wedge surface indicates that the change of the moraine to loess-sandy loam occurred gradually above the ice. These "ice" wedges also indicate the permafrost conditions of the latest glacial period and the stratigraphic relation of Quaternary deposits outside the glacial region.

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46871. MOSS, A. E., and J. J. G. SCHWELLNUS. The Quebec-Labrador ore and its relationship to the Sokoman formation. (Economic geology, Jan.-Feb. 1956. v. 51, no. 1, p. 121.)

Contains abstract of paper presented at the Annual Meeting of the Society of Economic Geologists, Feb. 20-23, 1956, New York. "The ores are classified into two groups: those which retain diagnostic protore features and those characterized by additions of secondary hydrated iron oxides . . . [The former] may have been converted to ore simply by leaching of silica, magnesia, and carbonates, with little or no addition of iron. The distribution, character, grade, and quality of both types of ore are closely controlled by structure and show marked variations in sympathy with the character of the protores from which they were derived."

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MOSS, EGIL, see Faegri, K., and E. Moss. On the occurrence . . . Codium . . . Scandinavian coasts. 1952. No. 44842.

46872. MOTT, PETER G. Air survey of the Falkland Islands Dependencies, 1955–1956. (Polar record, Sept. 1956. v. 8, no. 54, p. 237–45, 2 illus.)

The survey was made by means of air photography and ground control. Extremely poor weather conditions limited air operations. The natural hazards to flight in polar regions necessitate special precautions which reduce the theoretical air coverage because of practical limitations on equipment and personnel. Snow covered surfaces, particularly along the coast line, result in special problems to the air photographer of exposure and development. The only solution for snow-covered coast lines is photographing the area twice, once for the snow and once for the rocks. Empty 44-gal. fuel drums were utilized for marker beacons. Painted red and placed in a solid circle 10 ft. in diameter and 3 ft. high, the markers show clearly on vertical photographs at 1/30,000 scale. The party's base and equipment including moorings for aircraft, boats, etc., are described. Copy seen: DLC.

46873. MOULDER, PETER V., and R. G. THOMPSON. Protection of heart under hypothermia arrest. (Society for Experimental Biology and Medicine. Proceedings, May 1956. v. 92, no. 1, p. 49–52, illus. table) 7 refs.

Account of experiments with dogs made hypothermic to 24°-27° C. It was found that intracoronary acetylcholine decreases profoundly the rate of the occluded heart; this action was quite prolonged during hypothermia but intracoronary atropine reversed it. The protective value of

cardiac slowing during circulatory occlusion, is discussed. Copy seen: DLC.

MOURANT, A. E., see Allison, A. C., and others. The blood groups . . . Swedish Lapps. 1956. No. 43595.

46874. MOVIUS, HALLAM LEONARD, 1907— . Late Pleistocene (4th Glacial) conditions and Palaeolithic settlement in Soviet Central Asia and western Siberia. (In: International Quaternary Association. 4th Conference, Rome, 1953. Actes, pub. 1956. Pt. II, p. 711–28, text map, table.) 85 refs.

Includes (p. 720-24) description of the West Siberian Lowland extending from the Ural Mts. east to the Yenisey and north to the Arctic Ocean, with a review of the literature concerning extent of Late Pleistocene glaciation. At least two glacial stages have been recognized, correlated with the Riss and Würm of Western Europe. During the last glaciation, drainage in the Ob' and Irtysh Rivers was blocked, forming shallow lakes and swamps, around which extensive loess deposits accumulated. Although areas were favorable for Upper Paleolithic hunters, no large camp sites have been Reconstruction of paleogeographic conditions must be tentative, as almost no intensive geologic mapping has been done. Copy seen: DGS.

46875. MOXHAM, ROBERT MORGAN, 1919—, and R. A. ECKHART. Marl deposits in the Knik Arm area, Alaska. Washington, D. C., U. S. Govt. Print. Off., 1956. 23 p. illus., 7 maps (1 fold.), sections, 4 tables. (U. S. Geological Survey. Bulletin 1039–A. Investigations of construction materials in Alaska.) 14 refs.

Contains results of investigations in July 1951 in this area north of Anchorage and west of Palmer (61°16' N. 149°54' W.). Geology of the region is outlined. Marl occurs in and adjacent to at least five lakes, most significant deposits being near Wasilla. Accumulation of the calcareous material has taken place in sheltered embayments and shallow marginal areas of the lakes. In some places embayments filled with marl, then covered by muskeg, have deposits sealed off from the lake proper. Some 50 species and varieties of diatoms (listed) were collected from the marl. Deposits, probably chemically suitable for manufacture of portland cement, are too small (reserves approx. one million tons dry weight.) for large-scale operations. Suggestions are made for future exploration.

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46876. MOYER, JOHN H., and others. Renal functional response to hypothermia and ischemia in man and dog. (In: National Research Council. Division of Medical Science. The physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 199-213, illus. tables) 2 refs. Other authors: G. C. Morris and M. E. De Bakey.

Account of experiments with dogs and observations on four patients, the latter cooled to about 80° F. the former to 90° and 80° F. The effect of hypothermia upon the kidney, renal damage produced by ischemia, and the protective effect of lowered temperature against this damage, were the main problems studied. Renal functional response was found to be similar in both groups consisting in moderate depression of renal blood flow and glomerular filtration. Hypothermia did not protect against injury or prolonged ischemia.

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MOYER, PAUL R., see Anderson, L. G., and P. R. Moyer. Blasting . . . and drift operations . . . 1956. No. 43632.

46877. MOZEL', I. M. Kachestvennaı kharakteristika apatitovol produktsii Khibinskikh tundr. (In: Khibinskie apatity, 1933. t. 6, p. 36–42, graph, table.) Text in Russian. Title tr.: Qualitative characteristics of apatite production in the Khibiny tundras.

Basic characteristics of production are defined by phosphoric anhydride (P<sub>2</sub>O<sub>b</sub>) content of the apatite ore. Quality of production was improved by better initial sorting of ore and allocation of ores of different concentration for different purposes: quality for the metallurgical industry varied from 28.7 to 34.6 percent. Quality of flotation apatite concentrate of the superphosphate type was 39.5 percent. Variations in quality of product are illustrated in graph and table.

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46878. MOZEL', I. M. Raboty TSentral'noï khimieheskoï laboratorii Tresta Apatit. (*In*: Khibinskie apatity, 1933. t. 6, p. 275–78.) Text in Russian. *Title tr.*: Work of the Central Chemical Laboratory of the Apatite Trust.

Contains brief review of the laboratory work, particularly crushing and separation of ore concentrate, and evaluation of error in analyses of rare earths. Remedies are recommended.

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46879. MOZGOVOĬ, A. A., and others. Rabota 209-I Soñiznol gel'mintologicheskol ékspedi ŝii 1953 g. v lākutskol ASSR. (Akademiĥ nauk SSSR. Gel'mintologicheskaĥ laboratoriĥ. Trudy, 1956. t. 8, p. 51-76, 4 tables) Text in Russian. Other authors: K. M. Ryzhikov, V. E. Sudarikov and E. S. Lefkina. Title tr.: Activities of 290th Union Helminthological Expedition of 1953 in the Yakut A. S. S. R.

Contains brief outline of this ten-man expedition headed by the senior author to study helminthiasis of man and of game and fur-bearing animals. Incidence of infection was found higher among native than Russian population. The intensity of infection seemed to depend primarily upon age, children being affected the least, and adults over 50 yrs. the most, and upon food (meat or fish). Results of the medical party's investigations are tabulated (tables 1-3). The biological party investigated 1290 animals: 326 fishes, 32 amphibians and reptiles, 436 birds and 496 mammals. The results are discussed and tabulated: 150 species are listed with number of specimens studied, and the extent (percent) of infection by nematodes, cestodes and trematodes. Copy seen: DLC.

MOZGOVOĬ, A. A., see also TSvetaeva, N. P., and A. A. Mozgovoĭ. K izucheniû patogeneza pri protostrongileze . . . zaltsev . . . No. 48488.

**46880.** MOZHEVITINOV, A. L. Kaskady moguchikh GÉS. (Neva, Sept. 1956, no. 9, p. 153–56.) Text in Russian. *Title tr.:* Cascades of powerful hydroelectric stations.

Describes stations, planned or under construction, on the Angara, upper Yenisey, and Lena Rivers. Fluvial characteristics favorable for cheap power are noted. Bratsk hydro-electric station will start production by 1960, Krasnoyarsk a little later. As a substitute for multiple locks, a single lock-elevator, over 100 m. high, and with 12,500-ton water capacity is proposed at Shumikha village (Krasnoyarsk hydro-electric station) to lift or lower ships over the dam.

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46881. MÜHLMANN, W. E. Vorkapitalistische Klassengesellschaften; Beiträge zur ethnographischen Kasuistik. (Zeitschrift für Ethnologie, 1956. Bd. 81, Heft 1, p. 22–38.) 17 refs. Text in German. Title tr.: Pre-capitalistic class society; contributions to ethnographic casuistry.

Discusses the problems of class formation, assimilation and "proletarization" of primitive peoples through their contact with civilized nations. The cultural conflicts between Norwegian peasants and reindeer-herding Lapps (p. 22-23), Zyryan merchants and Samoyeds of northern Tsarist Russian Russia (p. 24-28), colonizers and the Yakuts, Tungus, etc. (p. 28-29) are included. The demoralizing effect of superficial civilization with its monetary system and resulting debtbondage, unlawful land seizure, introduction of alcoholic liquor, etc., are described and illustrated by quotations from 19th century sources.

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46882. MÜLLER, D. Nekrolog, Morten Pedersen Porsild, 1.september 1872 – 30.april 1956. (Grønland, June 1956, nr. 6, p. 240, port.) Text in Danish. *Title tr.:* Obituary, Morten Pedersen Porsild, September 1, 1872 – 30 April 1956.

Tribute to the botanist who founded Den danske arktiske Station on the island of Disko, West Greenland, in 1906, and headed it until 1946. His range of studies also included archeology and ethnography. Some of the published results of his research are listed as No. 13826–13858. His extensive scientific library has been acquired by the Arctic Institute of North America for its headquarters in Montreal. Copy seen: DLC.

MÜLLER, GERHARD FRIEDRICH, 1705–1783, see Herzog, R. Eine russische Handschrift . . . 1953. No. 45536,

46883. MÜLLER, KARL. Fridtjof Nansen. Braunschweig, G. Westermann, 1949. 88 p. (Helden des Friedens) 7 refs. Text in German. *Title tr.:* Fridtjof Nansen. (Heroes of Peace). Biography of Nansen, 1861–1930; includes (p. 15–54) account of his arctic explorations. *Copy seen:* DLC.

4684. MÜLLER, SVEN. Till Svenska mosskulturföreningens styrelse, Jönköping. (Svenska mosskulturföreningen, Jönköping, tidsskrift, Mar. 1901, No. 2, p. 67-78.) Text in Swedish. *Title tr.*: To the Directorate of the Swedish Association for the Development of

Boglands, Jönköping.

Includes, p. 77-78, reference to several bogs near Gällivare, Ruckajärvi, and Korpilombolo. Summarizing their depth and composition, writer concludes that they are suitable for both grass and forest cultivation and production of peat for fuel.

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MUELLER, WILLIAM JOHN, 1921—, see Stickney, P. B., and W. J. Mueller. Effect . . . low-temperature and aging . . nitrile rubbers. 1956. No. 48207.

46885. MUESEBECK, CARL FRED-ERICK WILLIAM, 1894— A revision of the North American species of ichneumon-flies belonging to the genus *Apan*teles. (U. S. National Museum. Proceedings, Jan. 4, 1921. v. 58, no. 2349, p. 483–576.)

Contains a discussion of this genus, a key to the species and a list of 164; 36 described as new, with synonyms, critical notes and data on habitat, hosts, cocoons, and geographic distribution. A. alticola, A. alaskensis, A. yakutatensis (Alaska), also A. hallii (Polaris Bay, northwest Greenland) are included. A list of hosts and index of species are appended.

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46886. MUKHERJEE, NALIN RAN-JAN, 1919-, and R. D. LEAR. Concentration of scheelite by flotation. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 10–19, diagrs.,

graphs, table.) 17 refs.

Theoretical and experimental investigations on scheelite collected near Fairbanks are discussed. The role of bubble attachment to the mineral particles is outlined. The amount of concentration and percentage recovery are graphed for different reagent compositions. Important factors controlling flotation efficiency include roughness of the bubble surface, reagent composition, and cell design.

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4687. MUKHERJEE, NALIN RAN-JAN, 1919 - Effect of solid surface on nucleation during phase transition. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub*. 1956, p. 124–25.)

Abstract of paper on the mechanics of nucleation and the part played by surface energies. It can be shown theoretically and experimentally that the presence of solid surfaces in a supersaturated medium will tend to form nuclei prior to their formation in the homogeneous medium. Copy seen: DGS.

46888. MUKHERJEE, NALIN RAN-JAN, 1919 - Effect of some factors on nucleation in phase transition. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 111–16, diagrs., graphs.) 11 refs.

The effect of cooling and stirring on nucleation is discussed. Equations are derived to show the effect of viscosity and nucleation rate, based on the criterion of the metastable state of a solution.

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46889. MUKHERJEE, NALIN RAN-JAN, 1919—. On the distribution of layer thickness in a flowing fluid. (In: Alaskan Science Conference . . 1953. Proceedings, pub. 1956, p. 65–66.) 6 refs.

The traditional mathematical expression for laminar flow in the vicinity of a pipe wall is given. Experimental and theoretical considerations indicate however, that this flow is not absolutely laminar. The derivative of layer thickness with respect to the distance measured radically along the wall is given based on accepted assumptions of the boundary layer theory.

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MUKHERJEE, NALIN RANJAN, 1919-, see also Anthony, L. M., and N. R. Mukherjee. Hydrogen ion and . . . heavy-metal distribution . . . soil . . . 1956 No. 43690.

MUKHOMEDIAROV, F. B., see Karantonis, F. E., and others. Ryby . . . Leny. 1956. No. 45892.

46890. MULDER, CORNELIS JACOBUS. Geology and petrology of the region between Lake Överuman and Tärnasjön, southern Swedish Lapland. Academisch Proefschrift, Universiteit van Amsterdam. Assen, Van Gorcum & Comp. N. V., [1951]. 123 p., 34 diagrs., 5 tables, map. (Amsterdam. Universiteit. Geologisch Instituut, Mededeling no. 175.) 43 refs. Text in English. Summary in Dutch.

This region, 65°50′-66°04′ N., 15°0′-15°25′ E., in the Swedish Caledonide mountains, is bounded on the north by the Gabbi-Mesket region reported on by Aleva, q. v. Its highest elevation is about 1400 m., and it has some small permanent snowfields. Variations in elevation are due largely to differences in rock resistance. Glacial activity has left

a variety of features, including morainal and fluvio-glacial deposits, and an example of "kursu" valleys described by Rudberg, q. v. Mulder treats the geology, petrography, petrology, stratigraphy, and tectonics that are responsible for the rock series. In the closing chapter on geological evolution, he summarizes the nature and sequence of events concerned in the bedrock history. Reviewed by Gunnar Kautsky, in Geologiska föreningen, Stockholm, Förhandlingar, 1951, bd. 73, häfte 3, no. 466, p. 521.

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46891. MULLER, ERNEST HATHAWAY, 1923- . Quaternary glaciation in the Bristol Bay region. (*In:* Alaskan Science Conference . . . 1953. Proceed-

ings, pub. 1956, p. 232.)

The greater part of the Nushagak and Alaska Peninsula lowland was glaciated during the Pleistocene. A tentative sequence of glaciations (early, two or more of intermediate age and extent, a late) is recognized, based on work in the Naknek River basin. Till and moraine deposits are briefly described.

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MULLER, FRITZ, see Science news letter. Water under permafrost . . . 1956. No. 47857.

46892. MULLER, WILLIAM H., Jr., and J. F. DAMMANN. Problems in methods of inducing hypothermia by external cooling. (In: National Research Council. Division of Medical Services. The physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 415–21, illus. table.) 20 refs.

A review and evaluation of the following methods: immersion in cold water; application of ice bags, or blankets with circulating cold fluid; cooling with cold air; pleural perfusion, peritoneal and intragastric cooling. Rewarming and the mechanics of hypothermia are briefly reviewed. Discussion followed paper by Dammann and Muller, q. v.

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MULLER, WILLIAM H., Jr., see also Dammann, J. F., and W. H. Muller. Problems . . . methods of inducing hypothermia . . . drugs and internal cooling. 1956. No. 44538.

MULLIGAN, J. J., see Rutledge, F. A., and others. Preliminary report: nonmetallic deposits . . . construction . . . 1953. No. 47716.

46893. MULLIGAN, ROBERT. Hill Island Lake (west half), District of Mackenzie, Northwest Territories; map with marginal notes. Ottawa, Queen's Printer, 1956. fold. map, 21 x 24 in. (Canada. Geological Survey. Paper 55-25.) 3 refs.

Map (scale 1 in.: 4 mi.) covers the area 60°-61° N. 109°-110° W., northwest of Uranium City and the Beaverlodge area of northern Saskatchewan; it includes basins of Hill Island Lake, Tazin, and Thoa Rivers. Canoe routes are Rocky hills and ridges occupy noted. much of the area, but glacial deposits are common, especially in the northeast. Bedrock is all Precambrian. Much of the map-area is underlain by a mixed assemblage of granitic and metamorphic rocks. Older quartzites and conglomerates and younger granites and diabase dikes are also described. No mineral deposits of any importance were found.

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46894. MULTAMÄKI, S. E. Finlands torvmarker, deras använding och forstliga betydelse. (Finska mosskulturföreningen, Helsingfors, Årsbok, 1925. Årg. 29, häfte 2, p. 120–43, 6 illus., table.) Text in Swedish. *Title tr.:* Finland's peatlands, their utilization, and their significance in forestry.

Peatlands are more extensive in Finland than in any other section of northern Europe except Russia. Their importance locally is reviewed; problems of use, and improvement are discussed; their value is considered in relation to forest extension requirements.

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MUNCK, FERNAND, see Martin, J., and others. Groenland, 1948–1952; gravimétrie . . . 1954. No. 46642.

MUNCK, O., see Hensen, A. T., and others. Measurement of coronary blood flow . . . krypton 85. 1956. No. 45425.

46895. MUNCK, VICTOR CÉLESTIN EDOUARD ANTHOINE de. Geology and petrology of the northwestern Artfjäll, Swedish Lapland. Amsterdam, de Bussy, [1951]. 89 p. illus., 9 maps (1 fold.), cross-sections. (Amsterdam. Universiteit. Geologisch Instituut. Mededeling, no. 183) 23 refs. Summary in Dutch.

Field investigations were carried out during summers 1946, 1947, and 1950 in an area on the Norwegian-Swedish border bounded on the north by the lake Stora Umevatten (approx. 65°54′-66°07′ N. 14°33′-46′ E.). The relief is typically glacial. Three principal geological units are distinguished: lower metamorphic series, zone of strong differential movement, and higher metamorphic series (further subdivided into five series). Stratigraphy, structure, and petrology of each of the series are described, petrology in detail. Copy seen: DGS.

46896. MUNICIPAL UTILITIES MAGAZINE. Ingenious device used in arctic community. (Municipal utilities magazine, Nov. 1956. v. 94, no. 11, p. 25, col. 3.)

Contains brief reference to the insulated utilidor adopted for use at the new site of Aklavik. All the public utility facilities, including water, sewer, hot-water, electricity, and telephone, will be housed in a common utilidor. Copy seen: DLC.

46897. MUNOZ, JUAN. Juneau, a study of the Gastineau Channel area. Illustrated by Rie Munoz. Juneau, Alaska Resource Development Board, Oct. 1956. 119 p. illus., text maps, graphs, tables.

General information for tourist, prospective settler, or student on physical features and history of the region; the city, its population, role of federal and territorial government, business and labor, administration, finance, public utilities, harbor and airport, housing, cost of living, schools, hospitals, churches, transportation, recreation, planning; also resources and future of the region: fisheries, wildlife, forestry, agriculture, mining, industrial sites, power, transportation, tourist industry.

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MUNRO, ELLA H. see Baker, P. T., and others. Relationship . . . skinfold thickness . . . body cooling . . . 1955. No. 43823.

MUNRO, GORDON A., see Watkins, D. H., and others. The effect of somatotrophin . . . 1956. No. 48872.

46898. MUNROE, EUGENE. Canada as an environment for insect life. (Canadian entomologist, July 1956. v. 88, no. 7, p. 372–476, 61 illus. incl. text maps.) 270 refs. Pub. also as Contrib. No. 3451, Entomology Div., Science Service, Dept. of Agriculture, Ottawa, Canada.

Ecological study, with descriptions of such factors as physiography, climate (temperature, winds, precipitation), soils (map, fig. 25); vegetation is considered as grassland, deciduous and coniferous forest, tundra, aretic and subarctic formations (fold: map, fig. 26); fresh-water environments: lotic and lentic formations are dealt with. The glacial and post-glacial history of insect fauna is briefly outlined. The ranges of insects, arachnids and other terrestrial arthropods, considered as a unit, are treated in ten large groups. including: Aleutian-southern Alaskan, southern Alaska-northern Rocky Mts., Alaska-northwestern Canada ranges, coastal ranges in western and northern Alaska and northwestern Canada, boreal, subarctic, and arctic ranges, the last subdibided into five types. The ranges and distributional types are described, and some characteristic insects of each are noted. Copy seen: DA.

46899. MURATOV, MIKHAIL VASIL'EVICH. Na vstrechu opasnostam; dva puteshestvia kapitanov V. Beringa, A. Chirikova, ikh spodvizhnikov i sputnikov. [Moskva] Izd-vo "Molodan gvardia," 1956. 324 p. illus., maps. (1 fold.) Text in Russian. Title tr.: Facing dangers; two voyages of Captains V. Bering, A. Chirikov, their comrades and fellow-voyagers.

Popular story of the Great Northern Expedition, 1725–1743 with emphasis on Bering's and Chirikov's voyages to Chukchi Sea in 1728–29 and to the shores of America in 1741–42. Krasheninnikov, Steller, Waxell (Vaksel'), Chaplin and other participants of expedition are characterized and their achievements noted.

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46900. MURAV'EV, V. I. Vtorichnye izmeneniâ slûd v mezozofskikh otlozheniâkh Vilûŭskof vpadiny. (Akademiâ nauk SSSR. Doklady, Aug. 21, 1956. t. 109, no. 6, p. 1197–98, plate.) 3 refs. Text in Russian. *Title tr.:* Secondary transformation of micas in Mesozoic deposits of the Vilyuy depression.

Contains a study of transformation of mica, always present in Mesozoic deposits of the region, in two principal directions. In upper Cretaceous stages mica goes through a process of hydration and eventual transformation into kaolinite, the moisture of deposits being a contributing factor. In more ancient deposits of the lower Cretaceous and Jurassic, minerals of the mica group are transformed by a process of chloritization into chlorites: the grains of kaolinites in these chloritic deposits are very stable.

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46901. MURDOCH, PETER. Seeguapik. (Beaver, Winter 1956. Outfit 287,

p. 24-31, 11 illus.)

Photographs showing how a soapstone figure is carved by Seeguapik, an Eskimo living at Povungnituk on the east coast of Hudson Bay (59°47' N. 77°19' W.). From sawing the soapstone block, the process is followed to polishing the completed carving.

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46902. MURIE, ADOLPH, 1899— . Nesting records of the arctic willow warbler in Mount McKinley National Park, Alaska. (Condor, July-Aug. 1956.

v. 58, no. 4, p. 292-93.)

Record of observations on two nests of Acanthopneuste borealis kennikotti July 23-Aug. 2, 1955, with notes on the nests and behavior of the birds.

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**46903.** MURIE, ADOLPH, 1899—. Notes on the nesting of the wandering tattler. (Wilson bulletin, Dec. 1956.

v. 68, no. 4, p. 323-24.)

Contains observations on the nesting of Heteroscelus incanus in Mt. McKinley National Park, Alaska, in summer of 1953. Four nests were found, one elaborate for a shore bird, but three others much simpler. Both birds were observed sharing in the incubation of the eggs and in brooding the young in the nests. Two days later the young were foraging actively; part of the time they waded in an expanse of shallow water, picking insects off the surface.

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46904. MURIE, OLAUS JOHAN 1889— . On the trail of the big brown bear in Alaska. (Washington Academy of Sciences. Journal, June 4, 1926. v.

16, no. 11, p. 309.)

Two species, Ursus gyas and U. kidderi, inhabit the Alaska Peninsula and Unimak Island. The Aleutian Range is the natural home of U. gyas, the largest carnivorous mammal in the world. The bears emerge from winter hibernation in the latter part of April, and in July go to the lowlands where they live about the salmon streams; this fish is the most important item of their summer feeding.

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46905. MURMANSKOE OBSHCHE-STVO KRAEVEDENIA. Obshchestvo izuchenia Murmanskogo krafa; pervye 9 mesfafsev raboty. (Its: Doklady i soobshchenia, 1927, vyp. 1, p. 1-6.) Text in Russian. *Title tr.:* Society for the Study of the Murmansk Region; the first nine months of its activities.

The Society, bearing a double name (Murmanskoe obshehestvo kraevedeniā and Obshehestvo izucheniā Murmanskogo krafā) began its activities with a general meeting held on Oct. 17, 1926, at which the Executive Board was elected with G. A. Klūge as chairman and V. K. Alymov vice-chairman. Its purpose was the scientific, economic, ethnographic and historical study of Kola Peninsula. In the course of the nine months, 16 general meetings were held and 24 papers delivered by 20 members. The list of papers is supplied.

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MUROMA, EERO, see Wikgren, B. J., and E. Muroma. Studies . . . Diphyllobothrium. 1956. No. 48949.

46906. MURPHY, EUGENE C. Polar navigation. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 215–17.)

Problems peculiar to aerial navigation in arctic regions are discussed. Until fall 1951, wind runs were made by the radar observer, to obtain drift from ground speed, by taking a series of fixes on a crack or lead in the ice. This information was augmented by radar Doppler drifts. Radar is the only type of navigation used over the Alaska mainland. A Pfund sky compass and an astro-compass have recently been combined to secure heading checks by sighting on the celestial body or during twilight periods when no celestial body is visible. Copy seen: DGS.

MURPHY, RICHARD, see Eldorado Mining & Refining Ltd. Eldorado enterprise. 1946. No. 44759.

MURRAY, JOHN E., see U. S. Coast Guard. International ice observation and ice patrol . . . 1955. 1956. No. 48582.

46907. MURZAEV, ÉDUARD MAKA-ROVICH. Vladimir Afanas'evich Obruchev. (Akademiâ nauk SSSR. Izvestiâ, seriâ geograficheskaîa, Sept-Oct. 1956, no. 5, p. 4-8.) Text in Russian.

Obituary of V. A. Obruchev, 1863–1956. His scientific work is characterized by thoroughness in investigation of the subject with expeditionary and field study, by persistence in bringing the work to a conclusion, by full utilization of available data, and by lucidity of exposi-

tion. Obruchev published over a thousand scientific works in the 70-year period from 1886. His contribution on the geology of Siberia and study of permafrost is noted. **Copy seen:** DLC.

MURZAEV, ĖDUARD MAKAROVICH, see also Obruchev, S. V. Spravochnik puteshestvennika... 1949–50. No. 47123.

46908. MURZINA, A. I. Reforma Speranskogo v Zapadnof Sibiri. (Leningrad. Universitet. Uchenye zapiski, no. 115, 1950. Fakul'tet narodov Severa, vyp. I, p. 101–116.) over 20 refs. Text in Russian. *Title tr.:* Speranskil's re-

form in Western Siberia.

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Outline and appreciation of the Statute for Administration of the Native Peoples (Ustav ob upravlenii inorodtsev) drawn up by M. M. Speranskil during his governor-generalship in Siberia 1819-21; the statute, in force from 1822 till 1917, was based on a division of Siberian natives into three groups: settled, migrating and nomad, and on partial recognition of the native tribal organization, customs and laws; its main purpose was to regulate the levy of "îasak" (a kind of tribute) and taxes. Difficulties of enforcing the statute and its inequities are noted. The codification of native customs, envisaged by the statute but never completed, is described, and the ethnographic importance of information collected in the process is stressed. This paper based on published and unpublished material, was presented to the Northern Conference at Leningrad University, Dec. 10-14, 1947. Copy seen: DLC.

46909. MUSACCHIA, XAVIER J., and M. L. SIEVERS. Effects of induced cold torpor on blood of *Chrysemys picta*. (American journal of physiology, Oct. 1956. v. 187, no. 1, p. 99–102, tables.) 13 refs.

These turtles, when kept in cold torpor produced by an environment of  $2\pm4^{\circ}$  C. showed a hemodilution. Rapidly induced cold-torpor had a similar effect Hematocrit and whole blood specific gravity were also different from those of control animals. Copy seen: DNLM.

46910. MUSACCHIA, XAVIER J., and M. L. SIEVERS. Effects of induced cold torpor on hemoconcentration in *Chrysemys picta*. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 134.)

Account of studies on these turtles exposed for long or short period to cold (0° to 8° C.). Hematocrit, whole blood specific gravity, plasma specific gravity and plasma protein were determined. Hemodilution was observed in all experiments.

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46911. MUSICH, N. I. Tekhnika zemledelifa v kolkhozakh Olekminskogo rafona Ákutskof ASSR. (Akademirá nauk SSSR. Ákutskif filial, Yakutsk. Trudy 1956. vyp. 1, Materialy o prirodnykh uslovifakh i seľskom khozfaľstve fugo-zapada Ákutskof ASSR, p. 71–102, graphs, tables.) 3 refs. Text in Russian. Title tr.: Agricultural technology in the kolkhozes of the Olekminsk district, Yakut A. S. S. R.

The soils, their agrotechnical, hydrological, chemical and biological traits are outlined. The system of farming, crop rotation and, especially, pasture management, are discussed, with consideration of techniques of tillage and weed control, problems of fallow land, potato and vegetable (cabbage, turnip, etc.) culture, effects of time of sowing; experiments in fertilizer rotation. Copy seen: DLC.

MUSINA, A. A., see Somov, M. M., and A. A. Musina. Determining the chemical composition . . . sea water. 1956. No. 48119.

46912. MUSSET, LUCIEN. Un gisement de plomb au Groenland. (Norois, Jan.-Mar. 1955. année 2, no. 5, p. 85.) Text in French. *Title tr.:* A lead de-

posit in Greenland.

Note on the lead-zinc deposit at Mesters Vig, northeast Greenland (72°09′ N., 23°45′ W.), discovered in 1948. Exploratory work has indicated over one million tons of high-grade lead ore. In 1952, the mining company Nordisk Mineselskab received a 50-yr. concession on all mines along the East Greenland coast, 70°-73° N., its financial assets are noted. Mining will start in spring 1956 and first shipment of mineral concentrate is expected by late 1956. Mining village for 150-200 workers has been established. Copy seen: DGS.

46913. MUSSET, RENÉ. La fabrication de l'azote à partir de l'air en Norvège. (Annales de géographie, July-Aug. 1956, année 65, no. 350, p. 316-17.) ref. Text in French. *Title tr.:* Production of nitrogen from the air in Norway.

Note on nitrogen production, localized 1903–1953 in Telemark, southern Norway. In 1953 a new center was installed at Glåmfjord on the coast just north of the Arctic Circle (66°48' N., 14° E.). Total production before the opening of the northern center was 159,000 t., during 1954-1955, 205,000 t.

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46914. MUTTIT, G H. Some aspects of ceilings and visibilities in snow at Goose Bay, Lab. Toronto, May 1956. 8 p. 2 graphs, 3 tables. Mimeographed. (Canada. Meteorological Service. Circular 2781, TEC-232.) 2 refs.

Study to determine chances of getting fairly low conditions when snow occurs, also relationship between horizontal and vertical visibilities. Tables show, according to various visibility classes, distribution of: ceilings, cloud and snow ceilings in snow situations, and snow ceilings on basis of data for 1945-1953. Frequency of ceilings 0-4000 ft., with visibilities 0-4 mi. at Goose Bay 1945-1953 is graphed. Results showed that "if a system approaching Goose Bay is expected to give snow it is almost certain to produce ceilings below 1000 ft. and visibility less than 1 mi. for a good part of the period during which the snow falls."

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MUZZULINI, GIOVANNI, see Taddei, C., and others. Studie dei fenomeni che accompagnano la ipotermia dell'encefalo . . . 1956. No. 48331.

46915. MYRSETH, OLE. Echinokokksykdommen i Finnmark. (Norsk laegeforening. Tidsskrift, 1956. årg. 76, nr. 22, p. 867-71, illus.) 6 refs. Text in Norwegian. Summary in English. Title tr.: Hydatid disease in Finnmark.

A report on 11 cases (7 males, 4 females) discovered among the population, with roentgenograms and data on blood picture, symptoms, therapy, etc. case histories are preceded by a discussion of the etiology, pathogenesis and eradication methods suggested for the local Copy seen: DNLM. conditions.

46916. NABOKO, SOF'ÍA IVANOVNA. Lava Apakhonchicha, pobochnogo kratera Kliuchevskogo vulkana, obrazovavshegosia v 1946 g. (Akademisa nauk Kamchatskaia vulkanologiches-SSSR. kafa stantsifa. Bfulleten', 1953. no. 17, p. 27-36, illus., tables.) 2 refs. Text in Title tr.: The lava of Apa-Russian. khonchich, a lateral crater of the Klyuchevskiy Volcano, opened in 1946.

Contains description of a 10-km. stream of lava ejected in Oct. 1946 from the lateral cone Apakhonchich; results of mineralogical and chemical analysis of lava samples are reported and tabulated. Copy seen: DLC.

46917. NABOKO, SOF'ÍA IVANOVNA. Novyl pobochnyl krater Kliuchevskogo vulkana, prorvavshilsia 23 oktiabria 1946 g. (Akademifa nauk SSSR. Kamchatskafa vulkanologicheskafa stantsifa, Bfulleten', 1949, no. 16, p. 12-16.) 4 refs. Text in Russian. Title tr.: The new lateral crater of Klyuchevskiy Volcano, which opened on October 23, 1946.

Ejection of vapor and gas from main crater and fumaroles during Sept.-Oct. 1946, preceded the opening of a new crater, called Apakhonchich, on Oct. 23; its eruption with ejection of lava is described on the basis of long distance observations and of author's trips to it on Nov. 3-5, and those of L. A. Basharina on Dec. 26-28. Results of an analysis of lava and gas are noted.

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46918. NABOKO, SOF'IA IVANOVNA. Sostofanie pobochnykh kraterov Klfuchevskoľ sopki v 1946-1948 gg. demiß nauk SSSR. Kamchatskaß vulkanologicheskafa stantsifa, Bûlleten', 1953. no. 17, p. 32–40, illus., tables.) Text in Russian. Title tr.: The state of the lateral craters of Klyuchevskava Sopka in 1946-1948.

In the period Sept. 1946-Aug. 1948, the author made several trips to the lateral cones Tuyla, Bilyukay, Yubileynyy and Apakhonchich; data on their activity, temperature of the fumaroles, and on the chemical composition of their sublimates are given; lowering of the temperature of

the fumaroles is discussed.

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46919. NABOKO, SOF'ÍA IVANOVNA. Vozgony vulkana Shiveluch. (Akademifa nauk SSSR. Kamchatskafa vulkanologicheskafa stantsifa, Bfülleten', 1953, no. 18, p. 47-55.) Text in Russian. Title tr.: Sublimates of Shiveluch Volcano.

Samples were analyzed of sublimates taken from the new lateral cone Suyelich, also from fresh deposits of rolling burninghot clouds and avalanches, from a stream of volcanic fragments and from old extrusive cones; the results are reported and discussed. Copy seen: DLC.

NABOKO, SOF'ÍA IVANOVNA, see also Mensallov, A. A., and others. Izverzhenie Shivelucha letom 1946 g. 46707.

46920. NABOKOV, VLADIMIR VLAD-IMIROVICH, 1899—. The nearctic forms of *Lycaeides* Hüb.; Lycaenidae Lepidoptera. (Psyche, Sept.-Dec. 1943.

v. 50, no. 3-4, p. 87-99).

Contains descriptive and critical notes on three specific categories, argyrognomon, scudderi and metissa, of this genus of butterflies. L. argyrognomon, trans. ad scudderi, which "seems somewhat similar to what I have as kodiak from Alaska," L. s. scudderi, occurring in Yukon Territory, northern Manitoba and Labrador, and L. melissa reported from Labrador and also from Kamchatka, are included.

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46921. NACHTIGALL, HORST. Adolf Friedrich. (Zeitschrift für Ethnologie, 1956. Bd. 81, Heft 2, p. 304–306). Text in German.

Obituary of Prof. Friedrich, of the Johannes Gutenberg University in Mainz, who died Apr. 25, 1956 in Pakistan. Studies of Siberian peoples are noted in review of his scientific work and his publications are listed.

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NAGAEV, ALEKSEĬ IVANOVICH, 1704–1780, see Goncharov, V. G. Admiral... Nagaev... 1956. No. 45173.

46922. NAGATA, TAKESI, and H. MIZUNO. Sq-field in the polar region on absolutely quiet days. (Journal of geomagnetism and geoelectricity, Sept. 1955. v. 7, no. 3, p. 69-74, diagrs., tables) 10 refs.

Geomagnetic data collected at a number of arctic stations during the Second Polar Year are analyzed for days when the geomagnetic conditions were especially quiet. The analysis confirms that the original presentation of Chapman concerning the daily variation field, but limited to the region between the northern and southern auroral zones, can be extended to include the polar regions.

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46923. NAGINSKIĬ, N. A. Mekhanizm mnogokratnogo pokrovnogo oledenenifa Zapadno-Sibirskoĭ nizmennosti. (Akademifa nauk SSSR. Doklady, Sept. 21, 1953. nov. ser., t. 92, no. 3, p. 645–58, illus.) 12 refs. Text in Russian. *Title tr.*: Process of repeated surface glaciation of the West Siberian plain.

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Discusses glaciation of the central and northwestern Siberian regions: Taymyr, Ob' and Yugan (61° N. 73° E.) basins. Two regional divisions are set up: glacier center (elevated areas of earlier glaciation) and glacier periphery (lower plains of later active glaciation, to which ice, rocks, and other materials have been moved). The latter division is discussed as to stages of the glacier movement: (1) accumulation of stationary firn ice (embryonic glaciation), later covered by active ice, flowing from the center; (2) stabilization of cover; and (3) disintegration by erosion, flowing, thawing and by other physical processes. Graphical illustration of these stages is given on p. 646. This multiple process of the glaciation is also confirmed by the studies of I. P. Gerasimov and K. K. Markov.

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46924. NAGINSKIĬ, N. A. O mekhanizme rosta chetvertichnykh lednikovykh pokrovov Zapadno-Sibirskoi nizmennosti. (Akademiña nauk SSSR. Doklady, July 21, 1953, nov. ser., t. 91, no. 3, p. 625–28, diagr.) 3 refs. Text in Russian. Title tr: Process of growth of Quaternary glacier cover of the West Siberian plain.

The movement of glacier ice and its erosive action are analyzed on the basis of studies on moraine and submoraine deposits on the M. Yugan River (61° N. 73° E.) in W. Siberia. The relative magnitude of these deposits indicates the process of growth of glacier cover and velocity of its spreading over lakes and rivers. A new type of continental glaciation is found in Eastern Siberia, the embryonic or Yakutian type, which is characterized by accumulation of firn over large areas of completely frozen lakes, as diagramatically illustrated on p. 627. Glacier observations in the Alps and Greenland are used to determine the depth at which the laminar movement of ice is changed to extrusion flow.—From SIPRE. Copy seen: DLC.

46925. NAGINSKIĬ, N. A. Oblasti razvevaniâ chetvertichnykh lednikovykh pokrovov Zapadno-Sibirskoĭ nizmennosti. (Akademiâ nauk SSSR. Doklady, July 11, 1953. nov. ser., t. 91, no. 2, p. 375–78, map, illus.) 6 refs. Text in Russian. Title tr: Region of scattering of the Quaternary glacier cover in the West Siberian plain.

Significance of wind action during glaciation and the deposition of windborne materials through different regions of West Siberia (Ob', Pur, Nadym River basins) and the Urals is discussed on the basis of collection of boulders, pebbles, sand and clay (illus. p. 377). Strong wind carried these materials even to upper levels. The areas of scattered material are shown on map. **Copy seen:** DLC.

46926. NAGINSKIÍ, N. A. Vzglifady akademika V. A. Obrucheva na istorifu oledenenifa Zapadno-Sibirskof nizmennosti v svete obshchikh voprosov dinamiki lednikovykh porkrovov. (Akademifa nauk SSSR. Komissifa po izuchenifu chetvertichnogo perioda. Bfulleten', 1953. no. 19, p. 23–37, maps) 9 refs. Text in Russian. Title tr: Academician V. A. Obruchev's views on the history of glaciation of the West Siberian plain in the light of the general problems of dynamics of the glacial covers.

The view advanced by Obruchev's Priznaki lednikovogo perioda v Severnoš i TSentral'not Azii (Signs of the ice age in northern and central Asia) 1931, on the existence of glaciation in northern Siberia has been supported by later investigations. The problem of the centers of glaciation in the Ural, Taymyr and Yamal-Taz land (now submerged), of the glaciers' advance, their extension and boundaries at the peak of glaciation, retreat of the ice cover and its gradual disappearance, have been studied by Obruchev and others. The present status of the problem is summarized and the interaction of Siberian cover of glaciation with that of Ural is discussed.

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46927. NAGÓRSKI, JAN, 1888—. Pervye polety v Arktike. (Kryl'íā rodiny, Oct. 1956. god 7, no. 10, p. 17–19, illus). Text in Russian. *Title tr:* First flights in the Arctic.

Recounts writer's search by hydroplane in 1914 for the Sedov, Rusanov and Brusilov expeditions over the west coast of Novaya Zemlya and Barents Sea; 3,000 km. were covered in 13 flights, 30 hrs. flying time. Copy seen: DLC.

NAGURSKIĬ, IVAN IOSIFOVICH, 1883-1917. See Nagórski, Jan, 1888-

46928. NAGY, LASZLO, and S. KILÂR. A hypoxia okozata energiaforgalom és testhömérsékcsökkenés mechanizmusa patkányban. (Kisérletes orvostudomány, 1956. 8 évfolyam, no. 4, p. 403–406, illus.) 7 refs. Text in Hungarian. Summaries in Russian and German. Title tr: The mechanism of reduced

energy metabolism and body temperature in rats.

Reduced energy metabolism and body temperature, caused by anoxia, were abolished by lesions of the epithalamus. The effect of anoxia is not considered due to failure of thermoregulation in the narrow sense, nor is the drop in body temperature cause of fall in metabolism, since a reduction in O<sub>2</sub>-consumption took place even without a fall in body temperature.

\*\*Copy seen: DNLM.\*\*

46929. NAHAS, GABRIEL G., and others. Étude du "débit azygos" pendant le clampage des veines eaves chez le chien sous hypothermie à 30° C. (Presse médicale, Jan. 1956. année 64, no. 5, p. 84–88, illus., tables) 18 refs. Text in French. Other authors: M. Weiss and C. Lenfant. Title tr.: Study of the "azygos debit" during occlusion of the caval veins in the dog under hypothermia of 30° C.

Account of observations on 21 hypothermic dogs submitted to a 30 minutes occlusion of venous circulation; temperature, hemoglobin content and saturation, and electrocardiograms were studied, in addition to the "azygos debit." Hypothermia permitted a 50–70 percent diminution of the debit as compared to 38° and without increasing ventricular fibrillation.

\*\*Copy seen: DNLM.\*\*

46930. NAKAI, J., and others. Thermal stress and tissue culture, 3; Gey's balanced salt solution versus protein containing fluids as freezing media. (Texas reports on biology and medicine, 1954. v. 12, no. 2, p. 326–35, illus., tables). 4 refs. Other authors: C. M. Pomerat and P. F. Gilliland.

Account of freezing experiments of embryonic chick tissues. The results did not show a significant or consistent difference between the two media.

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NAKAI, J., see also Pomerat, C. M., and others. Thermal stress and tissue culture, 4; the intensity-time factor. 1954. No. 47399.

NAKAI, J., see also Pomerat, C. M., and others. Thermal stress and tissue culture, 5 . . . enhance outgrowth . . . cold injury . . . 1954. No. 47400.

46931. NAKAYA, UKICHIRO. Properties of single crystals of ice, revealed by internal melting. Wilmette, Ill., Apr. 1956. iv, 80 p. incl. 105 plates, illus.,

diagrs., tables. (U. S. Army. Corps of Engineers. Snow Ice and Permafrost Research Establishment. Research paper

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The composition, changes in shape, and properties of Tyndall and vapor figures were investigated. The plane of the Tyndall figure is always perpendicular to the C-axis and the direction of the branches coincides with the A-axis. side of the hexagonal vapor figure coincides with the direction of the branches of the Tyndall figure. Once internal melting has taken place, the crystalline structure is disturbed upon refreezing and the fine layer structure is revealed. Vapor figures were found to migrate and change in shape when a thermal gradient was applied across the sample. The experimental values for the migration velocity agree with the theoretical values. The deformation of the vapor figure under isothermal conditions was investigated. Photomicrographs of ice crystal figures are appended. Copy seen: CaMAI.

NAMIKAWA, TOMIKAZU, see Sato, T., and T. Namikawa. On latitudinal distributions of diurnal and semi-diurnal components . . . 1954. No. 47800.

NANNFELDT, JOHN AXEL, 1904—, see Hylander, N., and others. Enumeratio Uredinearum . . . 1953. No. 45666.

46932. NARCHUK, È. P. Severnye gosti. (Priroda, Nov. 1956. god 45, no. 11, p. 125.) Text in Russian. *Title tr.:* Northern visitors.

Contains observations made in central European Russia on northern birds coming for the winter season. Among them: bullfinches (Pyrrhula pyrrhula) nesting in northern Scandinavia and Siberia; Rombicilla garrulus from the northern forest zone; Pinicola enucleator nesting in northern coniferous woods; Plectrophenax nivalis native to the tundra region and arctic islands (Novaya Zemlya), and many other northern species.

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46933. NARCHUK, É. P. V polîarnyî den'. (Priroda, June 1956. god 45, no. 6, p. 127–28.) Text in Russian. *Title tr.:* Polar day.

Deals with the influence of long summer days in the region beyond the Arctic Circle, on animal life generally, and on that of birds in particular. The intensive reproductive activity, faster development

of the young, change in hunting habits of birds of prey, etc. are noted.

Copy seen: DLC.

46934. NARDONE, ROLAND MARIO, 1928 - . Some aspects of the ecology and tissue chemistry of the arctic blackfish, Dallia pectoralis. Washington, D. C., Catholic University of America, 1956. 25 l. 4 plates, tables. 25 refs.

Report on work conducted in late July and mid-August, 1955 at lakes (two), polygon ditches, and tundra pools in Northern Alaska near 70°46′ N. 155° W. and at the Arctic Research Laboratory at Point Barrow 60 miles to the northwest. Ecological studies included pH, temperature, oxygen content of the water, and feeding characteristics of the fish. Physiological studies included lipid and glucose content of liver, brain, and muscle, and length-weight relationships. pH of the water ranged from 6.8 to 8.0. Water temperature varied from 7.8° to 13.2° C. Dissolved oxygen varied from 2.30 to 12.58 ppm. Ostracoderms and Cladocera were the principle food organisms, numerically. The tissue glucose of specimens kept at 25° C. was lower than that of cold-exposed specimens. The lipid phosphorous level of all tissues was low. The total lipid level of brain was high while the cholesterol level of that tissue was low. The lipid pattern of Dallia pectoralis showed wide variation. Copy seen: CaMAI.

46935. NARTŠISSOV, S. V. Bol'she vnimanifā lesnomu khozfālstvu Sibiri. (Lesnoe khozfālstvo, Oct. 1956. god 9, no. 10, p. 19–22.) Text in Russian. *Title tr.*: Special attention to Siberian forestry.

Industrial development of Siberia which produces 80 percent of the Soviet Union's hydro-electric power on the Angara, Yenisey, and other rivers, and which is the metallurgical base of an annual production of ca. 20 million tons of cast-iron, is briefly outlined. In addition to 75 percent of the available coal deposits, it has vast forest reserves to be used for industrial purposes. In view of rapid growth of industrial life of Siberia the problem of forest control and preservation is considered of the first importance. Prevention of large forest fires and destruction by insects and pests (parasites) require not only experienced direction and personnel but also forestry high schools and colleges. The problems of specialized training and research are included in the general plan for development of Siberia. Copy seen: DLC.

NARYSHKIN, V. V., see Lisi syna, N. K. Arkheologicheskie issledovania . . . 1953 g. 1956, No. 46390.

NASHAT, F. S., see Brewin, E. G., and others. An investigation . . acid-base equilibrium . . . hypothermia. 1955. No. 44131.

46936. NASIMOVICH, ANDREÏ ALEK-SANDROVICH. Rol' rezhima snezhnogo pokrova v zhizni kopytnykh zhivotnykh na territorii SSSR. Moskva, Izd-vo Akademii nauk SSSR, 1955. 403 p. illus., tables, maps. Approx. 450 refs. Text in Russian. *Title tr.:* The role of snow cover conditions in the life of ungulates of the territory of the U. S. S. R.

A study on the effects of snow cover upon the ecology of the hoofed game animals, and on the practical measures to be adopted to assure their reproduction during the winter period. Problems of terrain, weather, etc., are also considered. Consecutive chapters deal with the movements of the ungulates during the snowy period; food and reproduction; seasonal migrations depending on snow cover, including migrations of the snow-sheep (p. 141-57), elk (p. 166-99) and reindeer (p. 249-87); biotic relations during the winter; effect of snow on losses, biological events, and distribution.

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46937. NASIMOVICH, ANDREÏ ALEK-SANDROVICH. Zoologicheskie issledovanifa. (*In:* Obruchev, S. V. Spravochnik puteshestvennika, t. 2, 1950, p. 497–535, illus.) 70 refs. Text in Russian. *Title tr.:* Zoological investigations.

Contains instructions for zoological field work: equipment, recording, illustration and collecting of specimens, including (p. 505-506) fauna peculiar to arctic regions, tundra and taiga.

Copy seen: DLC.

NATHORST, ALFRED GABRIEL, 1850-1921, see Geologiska föreningen. Mötet den 1 Februari 1884. 1884. No. 45068.

46938. NATIONAL ACADEMY OF SCIENCES, Washington, D. C. International Geophysical Year; a special report prepared for the Committee on Appropriations of the United States Senate. Washington, D. C., U. S. Govt. Print. Off., 1956. vii, 27 p. 3 maps (2)

fold.) (84th Cong. 2d sess. Senate. Document no. 124)

Contains report on the scientific programs planned by the United States for the IGY, 1957-1958, and a brief synopsis of activities in the Antarctic 1954-1955. 1955-1956, in preparation for the Year. Brief descriptions are given of the U.S. programs in the following fields: meteorology, oceanography, glaciology, solar activity, ionospheric physics, aurora and airglow, geomagnetism, cosmic rays, seismology, gravity measurements, latitude and longitude determinations; also the rocket program and the satellite program and information to be gathered therefrom. Appended are the names of those serving on various committees and panels comprising the U.S. National Committee for the I. G. Y.

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NATIONAL ACADEMY OF SCIENCES, Washington, D. C., see also IGY. U. S. National Committee. United States program . . . 1957–58. 1955. No. 45709.

46939. NATIONAL GEOGRAPHIC MAGAZINE. Gold medal awarded to Mrs. Robert E. Peary. (National geographic magazine, Jan. 1956. v. 109, no. 1, p. 148, illus.) Ref.

Note on special medal awarded Mrs. Peary at ceremonies marking the presentation of Admiral Peary's flag to the National Geographic Society, May 6, 1955. Medal (accepted by Mrs. Peary's daughter) was in recognition of her contributions to Admiral Peary's expeditions to Greenland and the Canadian Arctic.

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46940. NATIONAL GEOGRAPHIC SOCIETY, Washington, D. C. Map of Alaska. Washington, D. C., 1956. map 29 x 35 in., and index, 16 p. (In: National geographic magazine, June 1956. v. 109, no. 6; also issued separately).

New relief-shaded map (scale: 1:3,000,000) prepared by Cartographic Dept., and based largely on aerial surveys; insets show Southeast Alaska and the Aleutian Islands, the four judicial divisions, Bering Sea area including easternmost U. S. S. R., and size of Alaska compared to continental United States. In addition to physical features, towns and settlements, map shows roads, national parks and monuments, limits of wooded country, 235 airports with scheduled service; seasonal or deserted settlements are also indicated. Accompanying index contains 3475 place names and brief descriptive text by J. O. La Gorce.

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46941. NATIONAL GEOGRAPHIC SOCIETY, Washington, D. C. National Geographic on Indians of the Americas; a color-illustrated record by Matthew W. Stirling. With contributions by Hiram Bingham [and others]. Illustrated with full-color reproductions of 149 paintings by W. Langdon Kihn and H. M. Herget and eight contemporary Indian painters. Foreword by John Oliver La Gorce. Washington, D. C., 1955. 431 p. approx. 400 illus. (262 col), text maps, diagrs.

Includes photographs and popular descriptions of customs, clothing, arts and crafts, hunting and fishing methods, etc. of the North Pacific Coast Indians (p. 136-53) among them the Tlingit, Haida, and Aleut, and Indians of the Canadian Subarctic (p. 154-76) including the Cree, Nascapi, Montagnais, and Kutchin; also the Canadian Eskimo. Brief descriptions are given of the Old Bering Sea. Punuk and Thule Cultures as well as that of present Eskimos. The Caribou Eskimos are described by D. B. Marsh, Anglican Bishop of the Arctic (p. 381-87) and an Eskimo whale hunt off Point Hope, northern Alaska, by Froelich G. Rainey (p. 388-95). Many excellent paintings and photographs.

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46942. NATIONAL RESEARCH COUN-CIL. Division of Medical Sciences. The physiology of induced hypothermia; proceedings of a symposium, 28-29 October Robert D. Dripps, chairman and editor. Washington, National Academy of Sciences-National Research Council, 1956. xii, 447 p. illus. (National Research Council. Publication 451.) "Convened by the Division of Medical Sciences, National Academy of Sciences-National Research Council, with the sponsorship of the United States Army, Navy, and Air Force," the symposium entertained 41 papers, with discussion and review. Those dealing solely with physiology are described in this Bibliography under their authors' names, viz.:

Part I. General Physicochemical and Physiologic Considerations of Hypothermia

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BROWN, D. E. S. Some consideration of physicochemical factors in hypothermia.

HORVATH, S. M., and G. B. SPURR. Effects of hypothermia on general metab-

TAYLOR, I. M. The effect of low temperatures upon intracellular potassium in isolated tissues.

RENKIN, E. M. Potassium exchange in perfused mammalian skeletal muscle.

GOLLAN, F. Electrolyte transfer during hypothermia.

SWAN, H. Myocardial balance of potassium.

ADOLPH, E. F. Effects of low body temperature on tissue oxygen utilization.

FUHRMAN, F. A. Oxygen consumption of mammalian tissue at reduced temperatures.

SEVERINGHAUS, J. W., and M. STUPFEL. Respiratory physiologic studies during hypothermia.

KAO, F. F. The gas transport system in hypothermia.

KELLER, A. D. Hypothermia in the

unanesthetized poikilothermic dog. LYMAN, C. P. and P. O. CHAT-FIELD. Physiology of hibernation in mammals.

ANDJUS, R. K., and others. Resuscitation and recovery of hypothermic, supercooled, and frozen mammals.

Part II. The effects of hypothermia on specific systems

A. Cardiovascular

D'AMATO, H. E. Cardiovascular functions in deep hypothermia.

SWAN, H. The circulation during rewarming.

BERNE, R. M. Coronary blood flow during hypothermia.

B. Endocrine

HUME, D. M., and others. The effect of hypothermia on pituitary ACTH release and on adrenal cortical and medullary secretion in the dog.

BERNHARD, W. F. The effect of hypothermia on the peripheral serum levels of free 17- hydroxycorticoids in the dog, and in man.

C. Hematology

VILLALOBOS, T. J. The effect of hypothermia on platelets and white cells in dogs.

D. Kidney

MOYER, J. H., and others. Renal functional response to hypothermia and ischemia in man and dog.

ANDJUS, R. K. Effect of hypothermia on the kidney.

E. Liver

GRAY, I., and others. Effect of hypothermia on metabolism and drug detoxification in the isolated perfused rabbit liver.

BRAUER, R. W. The effect of hypothermia on the isolated perfused rat liver.

F. Nervous system

McQUEEN, J. D. Effects of cold on the nervous system.

KLEINERMAN, J. Effects of changes in arterial pCO<sub>2</sub> on cerebral blood flow and metabolism during hypothermia.

ROSOMOFF, H. L. Hypothermia and the central nervous system.

BROOKS, C. McC. Hypothermia and

the nervous system.

JENSEN, J. M. Possibilities and limitations of differential brain cooling in dogs.

Part III. Myocardial irritability and hypothermia

BROOKS, C. McC. Hypothermia and the physiology of cardiac excitability. HOFFMAN, B. F. Temperature effects on cardiac transmembrane poten-

HEGNAUER, A. H. Myocardial irritability in experimental immersion hypothermia.

Part V. Techniques of Inducing Hypothermia

MULLER, W. H., Jr., and J. F. DAMMANN. Problems in methods of inducing hypothermia by use of external cooling.

DAMMANN, J. F., and W. H. MUL-LER, Jr. Problems in methods of inducing hypothermia by use of drugs and internal cooling. **Copy seen:** DLC.

46943. NATIONAL RESEARCH COUNCIL OF CANADA. ASSOCIATE COMMITTEE ON SOIL AND SNOW MECHANICS. Proceedings of the Eastern Muskeg Research Meeting, February 22, 1956. Ottawa, Oct. 1956. 64, 4 p., 2 text maps, diagrs., cross-sections, tables. (Its: Technical memorandum, no. 42.) 7 refs.

Record of Second Annual Muskeg Research Meeting, the first in eastern Canada. Progress reports were given on work of the newly-formed Special Committee on Muskeg of the Canadian Petroleum Association, by J. P. Walsh (p. 41–44); on muskeg research at the National Research Council, by I. C. MacFarlane

(p. 58-62); and at McMaster University, by N. W. Radforth (p. 62, title only). Those attending are listed with affiliations. Papers presented and discussed at the technical sessions (except that by A. Lafond) are listed in this Bibliography under the authors' names, viz:

MacFARLANE, I. C. Techniques of road construction over organic terrain.

HARDY, R. M., and S. THOMSON. Measurement of the shearing strength of muskeg.

RADFORTH, N. W. The application of aerial survey over organic terrain. HEMSTOCK, R. A. Economic aspects

of muskeg with respect to oil production. Lafond, A. Muskeg as it affects the economies of the forestry industry in Quebec, p. 45 (title only).

JOHNSTON, R. N., and G. A. HILLS. The need for rehabilitation of organic terrain in Ontario, with special reference to reforestation.

RUSS, J. R. Problems in muskeg accessibility. Copy seen: DGS.

**46944.** NATURE. L'adaptation des mammifères aux grands froids. (Nature, Paris, Mar. 1956. no. 3251, p. 96.) Text in French. Title tr.: The adaptation of mammals to extreme cold.

Notes experiments by the National Research Council of Canada on exposing small mammals to various degrees of cold. Acclimatization was found to play a large part in resistance to low temperature.

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**46945.** NATURE. Défense et exploitation de l'eider. (Nature, Paris, June 1956. no. 3254, p. 223, 2 illus.) Text in French. Title tr.: Protection and exploitation of the eider.

Note on the reservation on islands in Kandalaksha Bay of the White Sea, where the eider duck is protected and a Soviet research station has been established; qualities of eiderdown, times of collection, etc. Copy seen: DLC.

46946. NATUREN. Vitenskapelig feltarbeid i Norge 1956. (Naturen, Bergen, 1956. årg. 80, nr. 5, p. 275–88.) Text in Norwegian. Title tr.: Scientific field work in Norway 1956.

Scientific organizations and the field studies they sponsored in 1956 are listed, 38 of them in arctic or adjacent areas. They included fisheries, limnology, mapping, gravimetric and geodetic work, geological, archeological and botanical investigations. The Norsk Polarinstitutt directed a variety of studies (ten in all) in Syalbard and Greenland; the Tromsø Museum, eight in northern Norway; various other, Norwegian and foreign, government and private organizations sponsored their own subjects.

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46947. NATURFORSCHENDE GE-SELLSCHAFT SCHAFFHAUSEN. Beiträge zur Kenntnis arktischer und subarktischer Länder und zur Frage der Zusammenhänge ihrer Entwicklung über den Nordatlantik: (a) Geologische und vorgeschichtliche Entwicklung Labradors; (b) Fennoskandia; (c) Zur Frage der Eiszeitüberdauerung von Pflanzen in Grönland. (Its: Mitteilungen, 1941. Bd. 17, p. 8-115, maps (1 fold.), graphs, table.) 92 refs. Text in German. Title tr.: Contributions to the knowledge of arctic and subarctic lands and to the problem of the correlation of their development around the North Atlantic: (a) Geologic and prehistoric development of Labrador; (b) Fennoscandia; (e) On the problem of the ice age survival of plants in Greenland.

Results of research in bedrock and glacial geology and paleobotany in Labrador, Scandinavia, and Greenland; a series of five papers listed in this Bibliography under their authors' names,

viz. (titles tr.):

KRANCK, E. H. Geological observations during a research trip to Labrador in the summer 1939.

TANNER, V. Finnish research in Labrador.

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BACKLUND, H. G. The oldest structural units of Fennoscandia. A contribution to the interpretation of the "basement rocks.'

GELTING, P. E. E. On the Pleistocene plant refuges in Greenland.

WEGMANN, C. E. Geological aspects of the problem of ice-age survival of plants in Greenland.

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46948. NAUKA I PEREDOVOI OPYT V SEL'SKOM KHOZIAISTVE. Morskie vodorosli, sochnyl korm dla skota. (Nauka i peredovoĭ opyt v sel'skom khozíaistve, Oct. 1956. god 6, no. 10, Text in Russian. Title tr.: p. 25.) Marine algae, a succulent fodder for

Experiments with sea weeds as fodder for domestic animals were successfully carried out in Murmansk Province by the All-Union Scientific Research Institute of Agriculture in the Far North: algae ensilaged with the usual fodder proved to yield excellent silage.

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46549. NAUKA I PEREDOVOI OPYT V SEL'SKOM KHOZIAISTVE. Okulturivanie pochv tundry. (Nauka i peredovol opyt v sel'skom khozialstve, Aug. 1956. god 6, no. 8, p. 51.) Text in Title tr.: Amelioration of Russian. tundra soils.

Reports methods of soil reclamation worked out by the Polar Experimental Station of the All-Union Institute of Plant Cultivation in the Kola Peninsula tundras: the sand-podsol soils were cleared of stones, underbrush, etc.; and organic manures added; the peat-bog soils were drained, plowed and mineral fertilizers containing nitrogen and phosphorus added. A high yield of vegetables, potatoes and barley is reported on the improved soils. Copy seen: DLC.

46950. NAUKA I ZHIZN'. Goroda, kotorykh eshche net na karte. (Nauka i zhizn', Nov. 1956. god 23, no. 11, p. 39-41, illus.) Text in Russian. Title tr.: Towns which do not yet appear on maps.

Popular account of the activities of the Institute for town planning (Gosudarstvennyl institut proektirovania gorodov, Giprogor). Its planning for construction of new settlements in the Yenisey and Angara basins and reconstruction of Magadan is noted.

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46951. NAUKA I ZHIZN'. Okhotniki za rastenifami. (Nauka i zhizn', Dec. 1956. god 23, no. 12, p. 33-34, illus.) Text in Russian. Title tr.: Hunters for plants.

Popular account of the activities of the All-Union Institute for Plant Cultivation (Vsesouznyl institut rastenievodstva) given in the form of an interview with its Learned Secretary, M. F. Letova. Includes illus, of tomatoes raised in open ground by the Polar Experimental Station (Poliarnaia opytnaia stantsiia) of the Institute in Murmansk Province (Kola Peninsula). Copy seen: DLC.

46952. NAUMENKO, I. S atomnym dvigatelem. (Voennye znanifa, July 1956. god 31, no. 7, p. 10, illus.) Text in Russian. Title tr.: With atomic power. Various types of motive power installa-

tion on the ice-breaker are discussed in comparison with atomic power. breaker construction proposed according to the sixth five-year plan is outlined: a vessel of 16,000-ton displacement, with atomic power unit of 40,000 h. p., speed of 18 knots; it is to have a specially strengthened hull structure for navigation in heavy ice fields, and special hydromonitors (pipes) attached forward, capable of expelling two heavy jets of water under high pressure to dissipate ice resistance or destroy an iceberg. The vessel is to have modern electronic equipment for navigation and recording of data on ambient conditions. Convenient accomodations for crew and passengers, a research laboratory, also two helicopters for reconnaissance, and communication are to be provided.

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46953. NAUMOV, GURIÍ VASIL'E-VICH, and G. M. CHUDINOV. Sovetskafa lĀkutifa. Moskva, Izd-vo "Znanie," 1956. 40 p. illus., maps inel. 1 fold. (Vsesofuznoe obshehestvo po rasprostranenifu politicheskikh i nauchnykh znanif. serifa 3, no. 26.) 7 refs. Text in Russian. Title tr.: Soviet Yakutia.

Popular outline of the history of the Yakuts, and of the geomorphology, climate, flora, fauna, population, and economy of the Yakut A. S. S. R. Its vast extent (over 3 million sq. km.) and sparse population (in 1939 13/100 sq. km.) are noted; the natural wealth of the country is stressed: forests, fur animals and fish, mineral resources including coal, iron and tin ores, gold and diamonds. Division of Yakutia into economic zones is sketched, p. 32-34.

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NAUMOV, GURIĬ VASIL'EVICH, see also D'ſākonov, F. V., and G. V. Naumov. Ekonomiko-geograficheskaſa kharakteristika . . . 1956. No. 44613.

46954. NAUMOV, N. Â. Pribor dlâ nablûdeniâ za pucheniem i osadkami gruntov. (Transportnoe stroitel'stvo, Dec. 1956. god 6, no. 12, p. 30, diagr.) Text in Russian. *Title tr.:* A device for observation of ground settling and frost heaving.

"A device used for observations of ground deformation at the Skovorodino Permafrostologidal Station since 1954 is described. The equipment consists of a linear series of vertical steel rods about 6 mm. in diam. tipped with metal plates and discs. The series is sunk into the ground across the area subject to frost heaving. Rubber pipes filled with grease cover the rods to prevent adfreezing with the ground. Changes in the levels of the rods show the movement occurring within the ground during freezing and thawing."—SIPRE. Copy seen: DLC.

46955. NAUMOV, S. P. Obshchie osobennosti dinamiki chislennosti zaftsabeliaka v lAkutii. (Moskva. Moskovskil gosudarstvennyl pedagogicheskil institut im. V. I. Lenina. Uchenye zapiski, 1956. t. 96, vyp. 6, p. 1–21, illus. tables.) 28 refs. Text in Russian. Title tr.: General characteristics of population dynamics of the snowshoe hare in Yakutia.

Contains information on the economic value of this animal for the area; annual fluctuation in its numbers (large); numerical fluctuations in kill; regional differences in population numbers; geographic, vegetational and temperature conditions of these regions; fertility of the snowshoe hare in the various areas; seasonal distribution of reproduction; enemies, parasites, diseases. Copy seen: DLC.

NAUMOVICH V. M. Kach-46956. estvennafa kharakteristika frezernogo torfa, poluchennogo iz promorozhennol torfomassy. (Akademifa navuk BSSR. Minsk. Instytut Sbornik torfa. nauchnykh trudov, 1951. vpy. 1, p. 64-77, illus., tables, graphs.) 6 refs. Text in Russian. Title tr.: Qualitative characteristic of the peat milled from frozen raw mass.

Frost effect on the raw peat mass is experimentally determined by analysis and testing of three types of samples: of milled frozen mass, milled non-frozen mass, and raw peat mass (non-milled). The frost effects on peat characteristics are tabulated and graphed. The quality of frozen raw peat is generally reduced, due to fusion of small cells during freezing or to coagulation of the dispersed system of cells and rupture of the structural units (cf. fig. 5-7). The quality of frozen peat is not affected if its moisture is reduced below 50 percent. Also, mechanical crushing or milling after thawing eliminates any detrimental effect of freezing. Copy seen: DLC.

NAUMOVICH, V. M., see also Dubov, A. B., and V. M. Naumovich. Uluchshenie kachestva frezernogo torfa . . . 1951. No. 44671. 46957. NAUSTDAL, JAKOB. Om Alchemilla alpina's tillhøve til kalk på Vestlandet. (Blyttia, 1953. bd. 11, hefte 3, p. 79–95, 2 illus.) 23 refs. Text in Norwegian. Summary in English. Title tr.: On the relation of Alchemilla alpina to lime in western Norway.

Includes reference to Alchemilla alpina in northern Sweden and Norway, to its plant associates in various places, and to its apparent indifference to soil lime.

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46958. NAUTICAL MAGAZINE. Anomalous propagation in radar. (Nautical magazine, June 1956. v. 175, p. 350–52.) Pub. also in International hydrographic review, Nov. 1956. v. 33, no. 2, p. 119–21.

Several instances are noted of nondetection of nearby objects at sea due to sub-refraction of the radar signal. This condition is particularly prevalent where the air temperature is much below that of the sea. A pocket of sub-refraction may develop in the vicinity of icebergs which makes detection by radar unreliable in some cases. **Copy seen:** DLC.

46959. NAVAL AVIATION NEWS. Ice floes ahead! Ships and supplies get through to arctic outposts guided by ice forecasts put out by U. S. Navy Hydrographic Office. (Naval aviation news, Oct. 1956. 37th year, p. 1–5, illus., 2 text maps.)

The development of aerial ice reconnaissance and forecasting techniques in the Arctic since 1950 is examined. Forecasting sea ice conditions is the responsibility of the Hydrographic Office. The program has developed to the point where complete briefings on current ice conditions can be supplied together with both short- and long-range forecasts, with a considerable saving in supply operations by ship to this area.

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**46960.** NAVAL AVIATION NEWS. Soviet polar operations in the Arctic. (Naval aviation news, Mar. 1956. p. 20–23, illus.)

A series of 17 photographs is presented depicting life and operations on Soviet floating ice stations in the Arctic. Transport planes and helicopters are shown.

\*Copy seen: DLC.\*

46961. NAVAL AVIATION NEWS.
Take the bite out of frostbite. (Naval

aviation news, Dec. 1956. 38th year, p. 1-5. illus.)

The development of new equipment and techniques for naval air operations in cold areas is described briefly. Starting of aircraft in cold weather, ice removal from aircraft, cold weather clothing, and snow removal from airfields are discussed.

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46962. NAVARRA, S., and others. Vantaggi della ipotermizzazione di animali mantenuti in ipercapnia durante il raffreddamento. (Annali italiani di chirurgia, 1956. v. 33, fasc. 2, p. 172-93, illus., tables.) 40 refs. Text in Italian. Other authors: G. Peria and G. Cicala. Title tr.: Advantages of hypothermia in animals kept in hypercapnia during cooling.

Account of experiment with rabbits and dogs made hypothermic to  $10^{\circ}-16^{\circ}$  C. No fibrillation or cardiac arrest were noted except in some dogs, and the cases were reversible through rewarming. The awakening of the animals was always early and the resistance of the myocardium to anoxia was increased. These and some other advantages of this kind of hypothermia, are pointed out.

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**46963.** NAVIGATION. Forward scatter of radio waves; a means of communication. (Navigation, June 1956. v. 5, no. 2, p. 107-113, illus., map.)

Studies of forward scatter by the U. S. Bureau of Standards are described, and experimental paths of ionospheric forward scatter are mapped. In a series of measurements from Anchorage to Barrow, correlation with magnetic activity indicated a rise in signal strength at the receiver with increasing magnetic activity at the midpoint (Fairbanks).

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46964. NAVRÁTIL, JAN. Prevention and treatment of ventricular fibrillation in general hypothermia. (American surgeon, Apr. 1956. v. 22, no. 4, p. 436–41, illus.) 3 refs.

Account of experiments with anesthetized dogs made hypothermic by immersion in ice water. An electric defibrillator and its operation are described, and it is claimed to have "proved its value." Intrapericardial injection of Percain and Hydergin followed by pharmacologic pericoronary sympathectomy "seems to protect the heart" from ventricular fibrillation.

\*\*Copy seen: DNLM.\*\*

46965. NAVROŤSKIĬ, S. K. Meliorativnye raboty zimol. (Gidrotekhnika i melioratšiiā, Nov. 1955. god 7, no. 11, p. 54-61, illus. diagr.) Text in Russian. Title tr.: Winter reclamation work.

Preparation of new agricultural land is outlined, with consideration of work to be carried on during the winter. The process of clearing brushwood, undergrowth and young trees from assigned areas by special machines is described. A preliminary spraying or dusting with herbicide is carried out: 2,4-DU is used to destroy foliage and roots of brushwood; the brushripper D-174-A (illus.) removes larger undergrowth. This operation is described in detail.

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46966. NAZAROV, I. Skvoz' I'dy i tumany. (Sibirskie ogni, May-June 1956. god 35, no. 3, p. 107-119.) Text in Russian. *Title tr.:* Through ice and

fog.

Describes the trip (in 1949?) of a group of river freighters from Gor'kiy up the Volga River and by connecting waterways to Belomorsk, thence to Arkhangel'sk; the vessels proceeded past Ostrov Morzhovets to Varneka on Ostrov Vaygach; thence through Proliv Yugorskiy Shar, Kara Sea, Proliv Malygina, past Ostrov Dikson and up the Yenisey River to Krasnoyarsk. Visits to a Nenets kolkhoz at Khabarovo and to the polar station Amderma on Yugorskiy Poluostrov, weather (fog) in Barents and Kara Sea and ice conditions in Kara Sea in summer are discussed.

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46967. NAZAROV, V. O neobkhodimosti povysheniâ skorosti ledokola vo l'du. (Morskoī flot, Jan. 1947. god 7, no. 1, p. 41–43, table, diagr., graph.) Text in Russian. Previously listed as No. 12137. *Title tr.:* On the necessity of increasing the speed of an ice-breaker in ice.

The results of experiment with a model of the ice-breaker Ermak conducted in a basin with floating wax of various densities are compared with actual performances of the Ermak passing through the ice during 1938–1941. The traverse is made more economically with maximum than with less power through the ice of the same density. The average speed through ice of gradually increasing density is about half that through ice gradually decreasing in density for the same distance.

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NEAL, H. E., see Dufresne, C., and H. E. Neal. Distribution . . . Sokoman formation . . . . 1956. No. 44676.

46968. NEDZEL, ALEXANDER JOHN, 1888—, and J. BROWN. Effects of body chilling upon the blood vessels of denervated and intact kidneys in dogs and rabbits; final report. (Journal of aviation medicine, June 1956. v. 27, no. 3, p. 236–38, illus.)

Cooling the dog's body was found to cause a temporary suppression of urine flow in the intact kidney, but not in the denervated one. In the rabbit, chilling led to a decrease in number of blood vessels and glomeruli (mainly in the cortical part) of the intact kidney; in the denervated organ no such change was noted. The possible mechanism of these phenomena is discussed.

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46969. NEEDHAM, JAMES GEORGE, 1868— and M. J. WESTFALL, Jr. A manual of the dragonflies of North America (Anisoptera) including the Greater Antilles and the Provinces of the Mexican border. Berkeley and Los Angeles, Univ. of California Press, 1955. xii, 615 p. 341 illus., front.

Contains (in pt. 1, p. 1–59), data on the morphology of adults and nymphs, suggestions for field studies and for use of the manual. In pt. 2 (p. 61–603) are keys to the families, subfamilies, genera and species, and systematic list of all known species of the region studied; synonymy, descriptions, distribution and dates are given. Many species native to Alaska and northern provinces of Canada are included. A glossary of terms and indices of synonyms and scientific names are appended.

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46970. NEGOVSKIĬ, V. A. Arterial'noe nagnetanie krovi v usloviākh gipotermii. (Problemy gematologii i perelivaniāk krovi, 1956. t. 1, no. 5, p. 44–49.) 11 refs. Text in Russian. *Title tr:* Arterial blood transfusion during hypothermia.

Following a discussion of methods and merits of this kind of blood transfusion, the author recommends it in cases of hypothermia for restoration of cardiac activity. The application of hypothermia in prolongation of clinical death, studied in author's laboratory is also reported.

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46971. NEGRI, N. C. Aspects of winter mountaineering in the Norwegian

Arctic. (Alpine journal, Nov. 1955. v. 60, no. 291, p. 276-79, 2 illus., sketch

map.)

Contains description of mountaineering by a British group during the Lyngen Winter Survey Expedition, 1954-1955 (survey of climatological, glaciological, and travel conditions). Expedition's base was in the Nord Lenangen Fjord valley on the northwest coast of Lyngen Peninsula (approx. 69° 55' N. 20°10' E.). The area and the weather are described. Mountains on both sides of the fjord were climbed. Copy seen: DLC.

NEI, TOKIO, and others. 46972. Protective influence of various kinds of special winter clothes on the skin temperature distribution of a human body during exposure to cold. (Teion kagaku, Low temperature science, Sapporo, 1956. v. 14, ser. B., p. 109-115, illus., table.) 3 refs. Text in Japanese. Summary in English. Other authors: C. Yoshimoto, T. Hayashi, G. Mori, E. Sakaushi, E. Asanuma, K. Sakurada, and M. Asada.

Report on experiments with six types of clothes and two types of sleeping bags, tried at environmental temperatures of  $-40^{\circ}$  C. and a wind velocity of 10 m/s. All the types of clothing and the short sleeping bag proved insufficient for protection of the arms. Feather- or flossnylon-quilted clothes proved superior to those with artificial nylon fur. Skin temperature varied considerably according to personal constitution.

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NEI, TOKIO, see also Abe, S., and T. Nei. The influence . . . exercise in low temperature. 1956. No. 43476.

NEIBURG, M. F. Otkrytie listostebel'nykh mkhov v permskikh otlozhenifakh SSSR. (Akademifa nauk SSSR. Doklady, Mar. 11, 1956. v. 107, no. 2, p. 321-24, plate.) 5 refs. Text in Russian. Title tr.: Discovery of scale mosses in Permian deposits of the U. S. S. R.

Three new species of fossil mosses (Musci frondosi) are described and illustrated. Included are Intia vermicularis n. gen. et sp. and I. variabilis n. sp. (subclass Bryales) found in the Pechora River basin. Copy seen: DLC.

NEIL, E., see Brewin, E. G., and others. An investigation . . . acid-base equilibrium . . . 1955. No. 44131.

46974. NE IMAN, A. A. K kharakteristike promysla sigovykh ryb v del'te reki (Rybnoe khozialstvo, May Eniseia. 1956. god 32, no. 5, p. 59-61, tables.) Text in Russian. Title tr.: The lakesalmon fishery in the Yenisey River delta.

Account of a group of most important food fishes of the delta, with data on catches (1946-55) and their geographic monthly distribution, methods, size composition, utilization of diverse sizes, etc. Copy seen: DLC.

46975. NEISHTADT, MARK IL'ICH, 1903- . Opredelenie vozrasta torfianykh mestorozhdenii SSSR. (Akademifa navuk BSSR, Minsk. Instytut Trudy, 1954. t. 3, p. 15-39, torfa. table, map, graph.) Text in Russian.

Title tr.: Determination of the age of peat deposits in U.S.S.R.

Present peat deposits are related to the Holocene and the latter is divided chronologically into four periods corresponding to paleoclimatic periods (cf. table p. 19). Regional types (24) and complexes of pollen are described and distribution indicated (cf. map and graph, p. 21-22). Eight of these types are in the North, viz: Kola-Karelian, western forest-tundra (from Kanin Peninsula to Dudinka, 69° N. 86' E.), eastern foresttundra (Kolyma), Anadyr', Western Siberian (Omskaya Oblast'), Trans-Baykal, Eastern Siberian (Lena), and Kamchatka. Copy seen: DLC.

46976. NEISHTADT, MARK ILICH, 1903-. Stratigrafija golotsenovykh otlozhenil na territorii SSSR. (Akademiia nauk SSSR. Institut geografii. Trudy, 1954, vyp. 63, Materialy po geomorfologii i paleogeografii SSSR; raboty po sporopyl'tsevomu analizu, 13, p. 5-56, diagrs., tables, maps.) 41 refs. Text in Russian. Title tr.: Stratigraphy of the Holocene deposits on the territory of U.S.S.R.

Contains results of stratigraphic study of peat and sapropelic deposits in the U. S. S. R. based on pollen analysis. Twenty-four regional patterns of succession of strata are distinguished in relation to various types of vegetation corresponding to climatic changes during the Holocene; (cf. map, p. 11). The following arctic and sub-arctic regions are included: Kola-Karelia, embracing the Kola Peninsula and northern Karelia; western foresttundra, covering northern regions from Kanin Peninsula to Yenisev River: eastern forest-tundra, from Taymyr Peninsula to Chukotka; Anadyr' region and Kamchatka. Copy seen: DLC.

NEKHOROSHEV, V. P., see Modzalevskafa, E. A., and V. P. Nekhoroshev. Klass Bryozoa . . . 1955. No. 46792.

NEKHOTĀEVA, O. V., see Moskva. Vesesorūznara sel'skokhoz. vystavka. Pavil'on Gidrometsluzhba . . . 1956. No. 46862.

46977. NEKRASOVA, V. L. Pishchevye rastenifā. (*In:* Obruchev, S. V. Spravochnik puteshestvennika, t. 1, 1949, p. 176–203, illus.) 20 refs. Text in Russian.

Title tr.: Edible plants.

Lists the wild-growing fruits, berries, nuts, vegetables, plants used to make beverages, also edible mushrooms, algae and lichens, in the U.S.S.R.; Russian and Latin names, occurrence, and use as food by expeditionary personnel and travelers are given. Several of these plants are native to the arctic and subarctic areas (cloudberry, mountain cranberry, cranberry, Fritillaria kamtschatcensis, Polygonum viviparum, Claytonia tuberosa, nettle, sorrel, etc.); edible algae growing in the northern seas (Laminaria saccharina, Rhodymenia palmata, etc.) and edible lichens (Cetraria islandica, Cladonia rangiferina, etc.) are included. Copy seen: DLC.

46978. NELSON, DON H., and others. Corticosteroid secretion in the adrenal vein of the non-stressed dog exposed to cold. Bethesda, Md. 6 May 1956. p. 381-87, illus., table. (U. S. Naval Medical Research Institute. Research report project NM007-081.22.06.) 12 refs. Also pub. in: Endocrinology, Mar. 1956, v. 58, no. 3, p. 309-314. Other authors: R. H. Egdahl and D. M. Hume.

Report on 17-hydroxycorticosteroid determinations for dogs while surgically stressed, during convalescence, while exposed to —10° C. and when given ACTH at room temperature or in cold environment. Elevated steroid output was noted during surgery, during rewarming and following ACTH administration. Conditions are compared with those in the rat under similar treatment.

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NELSON, DON H., see also Hume, D. M., and others. The effect . . . hypothermia on pituitary . . . adrenal . . . secretion . . . dog. 1956. No. 45647.

NELSON, EDWARD WILLIAM, 1855–1934, see Sanders, I. T. Societies around the world. 1956. No. 47782.

NELSON, KURT H., see Thompson, T. G., and K. H. Nelson. Concentration of brines and deposition of salts from sea water . . . 1956. No. 48380.

**46979. NELSON, NED E.** Pavement design for frost susceptible soils, Anchorage International Airport. (*In:* Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 6–10.)

The design approach adopted was to provide slab thicknesses sufficient to withstand some subgrade frost action and capable of supporting a 100,000-lb. wheel load. Design values were adopted after field testing and other research. The thickness of the runway section over silt subgrade was established as 36 in. and that of taxiways, aprons, and runway ends as 42 in.

\*\*Copy seen: DGS.\*\*

46980. NELSON, URBAN C. Waterfowl banding and migrations in Alaska. (*In*: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 201–207. 7 tables.) 10 refs.

207, 7 tables.) 10 refs.

Account of recent findings (cf. No. 21646) from banding operations of key species in highly productive nesting grounds. Aims and benefits of banding are stated. The activities initiated in 1948 are recounted, and the findings (through the 1952 season) are discussed with regard to movements, losses, including mortality from hunting, etc. Data refer to several ducks, geese, a swan, loon, other birds.

\*\*Copy seen: DGS.\*\*

46981. NEMCHIKOV, VLADIMIR IVANOVICH. Opredelenie ėlementov prilivo-otlivnykh favlenii v shturmanskoi praktike. Moskva, Izd-vo "Morskoi transport," 1956. 86 p. tables, charts, diagr., graph. Text in Russian. Title tr.: Determination of the elements of tidal phenomena in navigational practice.

In three parts: general information on tides and tidal wave currents, including tidal phenomena in large rivers (Khatanga, Anadyr', Pechora, etc.) and sea areas covered by ice (p. 18–20); Soviet navigational material for determination of tidal currents, including arctic waters (p. 42); and English materials (Admiralty tide tables, Brown's Nautical almanac).

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46982. NEMCHINOV, VASILIĬ SER-GEEVICH, 1894– . Kladovaîa sokrovishch. (Smena, Aug. 1956. god 33, no. 16, p. 3, port.) Text in Russian. *Title tr.:* Store house of treasures.

Notes general expansion of Soviet industry and development of a third metallurgical center (based chiefly on coal and iron ores recently discovered in Yakutia and the Angara basin) with expected production of pig iron up to 15–20 million tons a year. Plan is mentioned of building a new railroad from the Pechora basin coal deposits to the metallurgical center in the Ural.

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46983. NEMCHINOV, VASILIĬ SER-GEEVICH, 1894- . Molodym khozlâevam Sibiri. (Molodof kolkhoznik, July 1956. god 23, no. 7, p. 1-3, illus.) Text in Russian. *Title tr.:* To the young masters of Siberia.

Appeal of an academician to Soviet youth, urging them to participate in the economic development of Siberia. The main tasks of industrialization are sketched: development of the Angara-Yenisey industrial region, of the Yakutia diamond fields, and water power of Siberian rivers, among them of Indigirka, Khatanga and Yana. Copy seen: DLC.

46984. NEMCHINOV, VASILIĬ SER-GEEVICH, 1894—. Perspektivy razvitiâ proizvoditeľnykh sil Sibiri i Urala. (Planovoe khozlálstvo, 1956, no. 3, p. 69–81.) Text in Russian. Title tr.: Prospects for development of the productive resources of Siberia and the Ural.

Importance of Pechora basin coal for development of the Ural industry and effect of large hydro-electric installations on the Yenisey and Angara upon coming industrialization of Siberia are noted. Satisfactory operation of the 1,100 km. auto-road connecting the Kolyma-Indigirka industrial region with Magadan, is mentioned and the need stressed of further automobile roads for industrial development of the northern areas.

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46985. NEMNONOV, N. Okhota na gagar. (Vokrug sveta, June 1956, no. 6, p. 58-59, illus.) Text in Russian. *Title* tr.: Hunting of loons.

Author's experiences hunting loons (Gavia immer) on the shores of a tundra lake in Evenki National District(?), with a young Tungus manager of a collective reindeer farm. Loons' habits are briefly characterized. Copy seen: DLC.

NERSESOVA, Z. A., see Martynov, G. A. O kalorimetricheskoi metodike . . . 1956. No. 46646.

46986. NERURKAR, M. K., and M. B. SAHASRABUDHE. Metabolism of calcium, phosphorus and nitrogen in hypervitaminosis A in young rats. (Biochemical journal, June 1956. v. 63, no. 2, p. 344-49, illus., tables.) 31 refs.

Animals given 400 x normal doses of the vitamin, showed reduced food intake and weight, skeletal fractures and hemorrhages. A negative balance for calcium, phosphorus and nitrogen set in and continued long after cessation of excessive vitamin administration. No changes in the Ca and inorganic P were found in the blood and very little change in the relative mineral composition of the bones. Estimation of vitamin A in the liver, suggested its reduced absorption from the intestine.

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46987. NESHEIM, ASBJØRN. Samisk og norsk i Lyngen. (Sameliv, Samisk selskaps årbok 1951–1952, p. 123–29.) Text in Norwegian. *Title tr.:* Lappish and Norwegian in Lyngen.

Contains a brief account of the language situation in the parish of Lyngen (Lyngen Peninsula approx. 69°20'-70° N. 20° E., north Norway) where Norwegian, Lappish and Finnish are spoken. Details on the main distribution of the three languages are given. Norwegian is rapidly gaining ground because of better communications, education, especially in the boarding-schools, and broadcasting; and because it is recognized that the knowledge of Norwegian is essential in the modern and more complicated community. Influence of Lappish is noted on Norwegian as spoken in the area Copy seen: DLC.

46988. NESMETANOV, ALEKSANDR NIKOLAEVICH, 1899— . Vstupitel'noe slovo. (Akademiñ nauk SSSR. Vestnik, March 1956. god 26, no. 3, p. 8–15.) Text in Russian. *Title tr.:* The opening address.

Address delivered by the president of the Academy of Sciences at its annual general meeting, Feb. 2, 1956. Investigations in the Northern Ural, those of the research vessel Vitiaz' in the Pacific, and results in permafrost studies are mentioned in a five-year survey of achievements.

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46989. NETSKAIA, A. I., and V. A. IVANOVA. Pervaia nakhodka ostrakod v nizhnem kembrii Vostochnol Sibiri.

(Akademiîa nauk SSSR. Doklady, Dec. 11, 1956. t. 111, no. 5, p. 1095–97, plate.) 4 refs. Text in Russian. *Title tr.:* The first find of ostracods in the lower Cambrian of eastern Siberia.

Describes a new fossil genus, Cambria and C. sibirica n. sp., found by N. P. Suvorova in the Botoma River region (right tributary of the Lena) and by A. A. Mezhvilk in the Lena delta, together with brachiopods and trilobites.

Copy seen: DLC.

46990. NETTING, MORRIS GRAHAM, 1904—, and C. J. GOIN. The correct names of some toads from eastern United States. (Copeia, July 22, 1946, no. 2, p. 107.)

Deals with four geographic races of Buffo terrestris, including B. t. copei inhabiting "forested portions of James Bay drainage of Ontario and Quebec, east coast of Hudson Bay at least to Great-Whale River, and Labrador."

Copy seen: DLC.

46991. NEUBURG, H. A. C., and others. High-altitude cosmic-ray neutron density at the geomagnetic pole. (Physical review, Mar. 1955. v. 97, no. 5, p. 1276–79, 5 graphs.) 12 refs. Other authors: R. K. Soberman, M. J. Swetnick, and S. A. Korff.

Two successful balloon flights were launched near the geomagnetic North Pole, bearing low energy cosmic ray neutron detectors. Launchings were made between 77°28′-45′ N. 72°47′-73°37′ W. from U. S. Coast Guard icebreaker Eastwind, Aug. 27 and 29, 1952. The neutron maximum was found to occur at 75±5 mb. A value of 161 mb. was found for the mean absorption depth, L.—From author's abstract.

Copy seen: DLC.

**46992.** NEVA. Molodaía poéziía narodov Severa. (Neva, Mar. 1956, no. 3, p. 108–109.) Text in Russian. Title tr.: New poetry of the peoples of the North.

Three poems by a Samoyed and two Tungus poets: Aleksel Platonov, Ivan Istomin, and Andrel Passar; translated into Russian by L. Shlionskii and L. Khaustov. Copy seen: DLC.

NEVERRE, G., see Malmejac, J., and others. Action de l'"hypothermie provoquée" . . . 1956. No. 46583.

NEVERRE, G., see also Malmejac, J., and others. Influence de l'hypothermie . . . 1956. No. 46587.

NEVERRE, G., see also Malmejac, J., and others. Influence . . . hypothermie encéphalique . . pression artérielle . . . 1956. No. 46586.

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NEVERRE, G., see also Malmejac, J., and others. Sur l'activité des centres nerveux vasomoteurs . . . hypothermic. 1956. No. 46589.

NEVERRE, G., see also Malmejac, J., and G. Neverre. Sur les modifications d'activité du sinus carotidien refroidi. 1956. No. 46592.

46993. NEWELL, HOMER EDWARD, 1915.— . The use of rockets in the IGY. (CSAGI Arctic Conference . . . pub. in: I. U. G. G. news letter, Sept. 1956. 5° année, no. 15, p. 384–85.)

The U. S. program in or near the Arctic will include rocket firings from shipboard between Canada and Greenland and at Fort Churchill. Aerobees, Nike-Deacon two-stage rockets, and balloon-launched Deacons will be employed. Firings will also take place in the Pacific, New Mexico, and in the Antaretic. Copy seen: DLC.

46994. NEWFOUNDLAND. DEPT OF MINES & RESOURCES. MINES BRANCH. Newfoundland's mineral industry, 1955. (Canadian mining journal, Feb. 1956. v. 77, no. 2, p. 105–106, 125, illus., text map.)

Includes brief description of iron mining and loading operations in the Knob Lake area, Labrador-northern Quebec (production figures for 1955 given in Quebec report, by J. C. Browning, q. v.); also, completion by Canadian Javelin Ltd. of plans and financing for the mining and shipping of 3,000,000 tons of iron ore annually from the Wabush Lake region, southwest Labrador (53°02′ N. 66°52′ W.); ore will be a briquetted specular hematite product. Ground work began in Sept. 1955, production in 1957 is anticipated.

Copy seen: DGS.

46995. NEWMAN, MARSHALL THORNTON, 1911 - Adaptation of man to cold climates. (Evolution, Mar. 1956. v. 10, no. 1, p. 101–105.) 30 refs.

Author, while agreeing with Scholander's thesis that insulation and high cold-resistance of non-insulated organs are the chief means of adaptation to cold climate in homeotherms (see No. 42332), points to a series of additional, physiological and morphological, traits in man which are considered as cold-adaptations. These are: higher temperatures in exposed

parts (fingers) of Eskimos and other northern peoples; higher basal metabolism; better fat utilization and more deposition of it in the skin; more useful surface: weight relation in peoples of the North; monogoloid face (with less salients), etc. Scholander's reply: No. 47842. Copy seen: DLC.

4696. NEWS. Atomic icebreaker. (News, Dec. 1, 1956, no. 23 (130) p. 31.)

Describes the Soviet Union's first atomic ice-breaker, under construction at Leningrad. The 440-ft. vessel, with 16,000 ton displacement, 44,000 hp. engines, speed of 18 knots, will be able to

cut through ice 6.5 ft. thick.

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46997. NEWS. Automatic polar stations. (News, May 1, 1956, no. 9

(116), p. 31.)

Describes a light-weight (450 lb.) radio installation designed at the Arctic Research Institute by a team of scientists headed by ftri Alekseev. A 40-ft. duraluminum radio tower, air-freighted to an ice floe and assembled in silu, supports an automatic device which transmits instrument readings of wind velocity and direction, atmospheric pressure and air temperatures. It can be contacted by radio for immediate weather reports; and it enables stations to keep track of ice drifts. Copy seen: DLC.

**46998. NEWS.** Diamonds in Yakutia. (News, Dec. 16, 1956, no. 24 (131), p. 32.)

Describes the discovery of over 20 diamantiferous kimberlite pipes in the mountain area between the Lena and Yenisey Rivers, also new finds in the northern part of Yakutia. Mentioned as well are two diamond mining settlements established in 1956: Novyy and Mirnyy; the latter is near the main kimberlite pipe several hundred feet in diameter, over 3,000 ft. in depth, called "the pipe of peace."

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46999. NEWS. Polar explorers want to co-operate. (News, Sept. 1, 1956, no.

17 (124), p. 9, illus.)

Visit of Dr. Brian Roberts and Dr. Terence Armstrong of the Scott Polar Research Institute, Cambridge, at the Arctic Institute, Leningrad.

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**47000. NEWS.** Reversing river courses. (News, Nov. 16, 1956, no. 22 (129), p. 4–5, map.)

Describes the Kama-Vychegda-Pechora

project to divert into the Volga River approx. 1.4 trillion cu. ft. of water now lost in the Barents Sea. The project calls for the erection of several dams, the largest at Ust'-Voya on the Pechora River, and a series of interconnected reservoirs, with a total area of over 6,000 sq. miles bridging the water divide.

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**47001.** *NEWS.* University for Yakutia. (News, Nov. 16, 1956, no. 22 (129), p. 31.)

The first university for peoples of the Far North opened in October 1956 with a student body of 1,239 Yakuts, Evenki (Tungus) and other northern nationals. The university has four faculties: humanities, natural sciences, technical and agricultural. **Copy seen:** DLC.

**47002. NEWS OF NORWAY.** [News notes]. (News of Norway, 1956. v. 13.)

Current events and topics of arctic interest through 1956 include the following: Scandinavian Airlines System has ordered DC-8 jet airliners for 1960 which are expected to cut Los Angeles-Scandinavia trans-arctic flight time to 11 hrs. and 15 min.; SAS is negotiating for five powerful air-ground radio stations in North Norway, Svalbard, North Greenland, Banks Island, and North Alaska (no. 1, p. 1-2); New SAS arctic route Copenhagen-Tokyo will be opened early in 1957 (no. 42, p. 167); Studies on Arctic-Norwegian cod by the Norwegian Fishery Directorate's Ocean Research Institute show that cod and haddock move mostly in upper levels of the sea, a radical change in Norwegian fishing methods is suggested; decline in catch of mature cod at Lofoten is associated with heavy international trawling in Barents Sea, feeding ground of young cod (no. 32, p. 127); pelagic purse-seining for cod was tested on West Greenland banks by the Norwegian fishing vessel Longva, summer 1956 (no. 28, p. 110); Recommended increase (50 percent) in U. S. duty on ground fish fillets would have grave consequences in North Norway where U. S. export is crucial to the filleting industry (no. 38, p. 149); Four Norwegian sealers were beset in East Greenland pack ice in Apr. 1956; loss of life in ice of these regions in 1952, 1917, 1777 is noted (no. 15, p. 57-58); Extension of telephone and teletype communications to Finnmark will be completed at end of 1957 with construction of "microlink" relay stations from South Norway to Kirkenes (no. 8, p. 29-30; no. 20, p. 77); Consideration by Norwegian Parliament of bill for establishment of new radar air warning stations in Trøndelag and Bodø districts, extending the Tropospheric Scatter System from Turkey through Europe to North Norway (no. 20, p. 77); As part of its contribution to the International Geophysical Year, Norway is providing two radiosonde stations, on Bjørnøya (now in operation) and at Isfjord, on Vestspitsbergen (for 1957), and three radio-echo stations, at Vestspitsbergen, Tromsø and Kjeller (no. 6, p. 23; no. 32, p. 126, no. 41, p. 163); Round-the-world flight across both Poles is projected in Nov. 1956 by Swedish and Norwegian geophysicists, to record cosmic radiation at high altitudes (no. 25, p. 99); Road from Honningsvåg to Nordkap, opened July 1, 1956, is connected by ferry with the Arctic Highway which runs south 1300 miles to Oslo (no. 10, p. 38, no. 26, p. 101); Decision by board of North Norway Development Fund to invest Kr. 3 million in construction of 3,380 ft. steel and concrete drawbridge between Tromsø and the mainland (no. 35, p. 138); Norway's traveling State Gallery consisting of paintings, graphic works and sculpture will tour 15 towns and rural centers in Finnmark in late 1956 (no. 28, p. 110); Norsk Dokumentarfilm with U. S. cooperation is producing a fulllength color documentary "People of the Arctic," intended to demonstrate strategic importance of the region and show Norwegian-American cooperation in research projects (no. 36, p. 142); Development of A/S Sydvaranger of Kirkenes, Finnmark, only company in world to mine magnetic taconite on commercial scale, is traced through two world wars to its 50th anniversary in 1956 (no. 5, p. 19; no. 30, p. 118); New iron ore docks at Narvik, North Norway, built by Swedish company Luossavaara Kiirunavaara A/B and believed to be world's largest and most modern, will enable 12-15 million tons of ore to be shipped from the Kiruna district of Sweden (no. 31, p. 122); Store Norske Spitsbergen Kulkompani A/S hopes to ship 360,000 tons of coal in 1956 from Longvearbyen Preparations are being made to resume full-scale operations at Ny-Alesund mine, operated by another company, where workable deposits of 10 million tons are estimated (no. 18, p. 71); Storms in North Norway in Jan. 1956 caused property damage of Kr. 4 million to the Lofoten-Vesterålen region alone, damage to the North Norway railway will take three months to repair (no. 3. p. 10); Tests are being conducted by Oslo University's Zoo-Physiological Institute to ascertain possible changes in human body functions under prolonged exposure to low temperatures (no. 36, p. 141-42); Meeting on the economic, social and cultural problems of the Lapps in Norway, Sweden and Finland, was held in Oslo, early 1956; in Aug., conference at Karasjokk established a joint Nordic Lapp Council with a majority of Lapp members. Present conditions and future of Lapps are briefly discussed (no. 3, p. 10; no. 30, p. 119).

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47003. NEWTON, JOHN M., and L. J. PEACOCK. The effects of auxiliary topical heat on manual dexterity in the cold. June 16, 1957. 33 p. illus. tables (U. S. Army Medical Research Laboratory, Fort Knox, Ky. Report no. 285.) 13 refs.

Auxiliary heat applied to the forearm, if sufficiently intense, increased finger dexterity during exposure to -18.5° C. A concomitant decrease of the drop in skin temperature of the hand was also observed.

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47004. NEZDĪŪROV, DMITRIĬ FILIP-POVICH. Inspektsifā meteorologicheskoĭ seti. Leningrad, Gidrometeorologiches-koe izd-vo, 1955. 316 p., illus., fold. maps, tables, 29 refs. Text in Russian. Title tr.: Inspection of the meteorological network.

Textbook approved by Ministry of Higher Education of the U. S. S. R. for hydro-meteorological institutes and state universities.

Methods and procedures for organization and inspection of meteorological stations and posts are described. Procedure is outlined for examination, adjustment and repair of basic meteorological instruments used for observation and recording of aerological, actinometric and agrometeorological data. Selection of station site, arrangement of instruments and laboratory equipment, etc., are explained (p. 18-75). Methods of measuring precipitation (rain and snow), icing, glazing, rate of snow melting, etc., are given (p. 135-54). Ground temperature measurement, particularly depth of frozen ground ("freezometer") is outlined (p. 186-99). Attention is given also (p. 210-48) to aerological, actinometric and agrometeorological observations including frost forecasting.

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47005. NIAZI, SUAD A., and F. J. LEWIS. The effect of hypothermia on malignant growth in rats. (Surgical forum, 1956. v. 6, p. 408-411, illus.) 13 refs.

Flexner-Jobling carcinoma, Jensen sarcoma or Walker carcinosarcoma 256 were implanted into Sprague-Dawley rats. Cooling to 0° C. produced regression in 10 out of 16 animals; in the control group spontaneous regression occurred in four out of 24 rats.

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47006. NIAZI, SUAD A., and F. J. LEWIS. Profound hypothermia in the dog. (Surgery, gynecology & obstetrics, Jan. 1956. v. 102, no. 1, p. 98–106, illus.) 5 refs.

Contains descriptions of procedures which enable to cool dogs below 10° C. with survival; and to arrest (in other animals) circulation for periods of 30 minutes and to perform successfully right ventriculotomy at 18° C. Most of the dogs chilled below 10° C. had cardiac standstill for more than one hour. An important part of the technique which reduces ventricular fibrillation is the use of CO2 in the respiratory mixture and the production of cardiac standstill by shifting the hydrogen concentration of the blood to an alcaline level below 20° C. Changes of blood chemicals and hydrogenion concentration occurring during the various stages of hypothermia are also described. Copy seen: DLC.

NIAZI, SUAD A., see also Lewis, F. J., and S. A. Niazi. The use . . . to prevent ventricular fibrillation . . . surgery under hypothermia. 1956. No. 46337.

47007. NIBLACK, ALBERT PARKER, 1859–1929. Ethnology of the coast Indian tribes of Alaska. (U. S. National Museum. Proceedings, July 5, 1889. v. 11, p. 328.)

A brief general note on northern (wood-carving) and southern (cedar-bark) groups of Indian tribes of the Northwest Coast, with an estimate of the population. Need of further study of the ethnology of these groups is stressed.

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47008. NICHOLLS, DORIS, and R. J. ROSSITER. Phosphorus metabolism of the adrenal gland of the rat; acclimatiza-

tion to cold. (American journal of physiology, Oct. 1956. v. 187, no. 1, p. 11-14, tables.) 31 refs.

Rats maintained in the cold  $(3\pm1^{\circ} \text{ C.})$  showed increased incorporation of anorganic P<sup>32</sup> into the acid-soluble P of the adrenal. Short (2 hrs.) exposure to more severe cold  $(-5^{\circ} \text{ C.})$  showed a great rise of P<sup>32</sup> incorporation in non-acclimatized rats, but only a slight rise in the cold-adapted animals. The adrenal response of the non-acclimatized rats was much lowered by cortisone administration.

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47009. NICHOLLS, DORIS, and others. Phosphorus metabolism of the adrenal gland of the rat; effect of exposure to a cold environment for eight days on the amounts and P<sup>32</sup>-labelling of phospholipid and ribonucleic acid. (Canadian journal of biochemistry and physiology, May 1956. v. 34, no. 3, p. 543–53, illus. tables.) 16 refs. Other authors: F. C. Heagy and R. J. Rossiter.

"In the cold-exposed animals, there was a decrease in the specific activity of both the lipid P and the ribonucleotide P" in general and relative to that of the inorganic P of the adrenal. Increase in the amounts of lipid P, RNA, DNA of the adrenals during cold exposure and changes in the ratios of these substances are also considered. Copy seen: DLC.

47010. NICHOLS, DONALD RAY-MOND, 1927—. Permafrost and ground-water conditions in the Glennallen area, Alaska. Washington, D. C., Jan. 1956. 14 p. fold. map, fold. sections, 2 tables. Mimeographed. (U. S. Geological Survey. Reports, open file series, no. 392.) 14 refs.

Study was prepared to aid construction at the junction of the Glenn and Richardson Highways (approx. 62°05'-10' N. 145°29'-31' W.), southeastern Copper River basin. Physical geography is described. The region is underlain by unconsolidated Quaternary and Recent deposits. Ground water, available at 300-400 ft. depth, is high in dissolved solids, extremely hard, and generally confined under artesian pressure beneath glacial clays and/or permafrost. Moose Creek and Dry Creek flood plains may yield potable water at approx. 200 ft. Permafrost averages -0.5° C. to -2.0° C., extends from near surface to 150-250 ft., and has moderate to high ice content. The area is characterized by fine-grained deposits highly susceptible to frost action, and by very poor surface and subsurface drainage. Construction problems are discussed. Tables present chemical analyses of ground water and data on ground conditions.

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47011. NICHOLS, ROBERT LESLIE, 1904 - . Geomorphology of the southwest Inglefield Land. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, pub. 1954. p. 151–208, illus., diagrs.) 18 refs.

The results are reported of geomorphological studies conducted July 20-Aug. 12 in the southwest part of Inglefield Land between 78°00' N. and 79°30' N., and in the drainage basin of the Main River (which flows to the northwest along the edge of the icecap and then to the north to Rensselaer Bay). The current processes, surface deposits, geomorphic features, and evidences of past glaciation are described. Frost action phenomena observed included: non-sorted circles and polygons on till plains and in solifluction material; sorted circles, polygons, and stone stripes; vegetation-covered frost mounds more than 1 ft. high and 2 ft. in diam, at the base, in loess; intersecting frost cracks more than 3 ft. wide and 2 ft. deep forming polygons more than 100 ft. across on horizontal terrain and slopes up to 15°-20°; and debris-capped blocks, the formation of which is attributable to solifluction lobes overrunning the blocks. The depth of permafrost, measured at 3 points less than 0.5 mi. apart, was 18 in., 22 in., and 30 in. Evidence that Inglefield Land was entirely glaciated was found in the presence of sandstone erratics and rock-basin lakes about 1-5 mi. from Rensselaer Bay. The possible causes for the complete deglaciation of Inglefield Land and the presence of ice in surrounding areas are discussed. An outline of geomorphic history is included, and 20 photographs depicting various geomorphic features are presented.—From SIPRE. Copy seen: CaMAI.

47012. NICHOLS, ROBERT LESLIE, 1904 - Military significance of geologic studies in Inglefield Land. (*In:* U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, *pub.* 1954. p. 145–50, 3 maps.)

"Accesses to the icecap, trafficability conditions, water supply, landing sites, and the availability of construction materials in the area are discussed. The presence of extensive beaches and a delta

make landings in small boats possible in the Rensselaer Bay. The period in summer when these are possible is shorter than at Thule due to more numerous icebergs and thicker sea ice. Access from the icecap to Inglefield Land is possible for both men and equipment along most of the ice margin except at a few points due to ice-dammed lakes, marginal streams, and ice cliffs. During most of the year, the Main River (unofficial name) valley is the easiest way from Rensselaer Bay to the icecap, except during high water in summer. The supply of fresh water is abundant, its sources being meltwater from the icecap, ground ice, and snow, and rain. Inglefield Land has more possible airfield sites than the region around Thule, the most suitable being the area near the edge of the ice, where surfaces extending from 1-3 mi. are covered by mantle rock deposits and the slopes are gentle. The 2-mi. long and up to 1-mi, wide ice-dammed lake to the northwest of the reentrant in the ice edge could serve as a landing field for small planes during the winter. There are eight sources of aggregate for highway and building construction in Inglefield Land, including terrace deposits, morainal cones and ridges, modern stream deposits and elevated beaches, till, block fields, talus, and bedrock."—SIPRE.

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47013. NICHOLS, ROBERT LESLIE, 1904—. Scientific studies on the Ice Cap in Inglefield Land with special reference to military significance. (*In:* U. S. Army. Transportation Corps. Final report, Operation Ice Cap, 1953, *pub.* 1954, p. 141–43.)

The scientific work conducted in the region to determine the physical characteristics of the icecap and ice-free areas as they may affect surface transportation and military requirements are described. Results are summarized of studies in the bedrock geology; glaciology of the icecap between Thule Takeoff and Uncle (including snow density, temperature, hardness, and stratigraphy, the orientation of sastrugi, thrust planes, moraines, icemargin, microtopography, surface phenomena, and melt-water streams and channels); seismic soundings; surficial deposits; and geomorphology. Trafficability conditions, the availability of construction materials, water supply, and landing facilities are outlined. A base camp was established at 78°13'50" N. 69°37′50′′ W. in Inglefield Land after the party traveled a total of 1300 mi. on the icecap.—From SIPRE.

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NICHOLSEN, NORMAN L., see Canada. Dept. of Transport. Navigation conditions . . . Hudson Bay Route . . . 1955. 1956. No. 44261.

NICKERSON, MARK, 1916—, see Shemano, I., and M. Nickerson. Effect of ambient temperature on thermal responses to drugs. 1956. No. 47936.

47014. NICOL, ALLEN HANKINS, 1907— . Solair party. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, pub. 1954. p. 433—

35, map.)

Contains preliminary report of the activities and findings of the Solair Party (originally: Solo) engaged in geologic mapping of the Thule area June 13-Aug. 25, 1953. The area consists of the ice-free land extending south from Wolstenholme Fiord and the Moltke Glacier to Parker Snow Bay, including Wolstenholme and Saunders Islands. Glacial deposits and bedrock are briefly described and recommendations are made.

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47015. NIELSEN, E. STEEMANN. Havet og ernaeringen af jordens befolkning. (Naturens verden, København, 1953. årg. 37, hefte 3–4, p. 53–62, 2 illus., 2 text maps.) Text in Danish. *Title tr.:* The sea and nourishment of the world's population.

Sea-water analysis by Carbon-14 method, which is described, shows that there are substantial amounts of nutritional salts in deep-sea water. Where deep water upwells, as over the underwater threshhold between Greenland and Europe, plankton thrives; small sea animals consume the plankton; and large fish, such as cod, are abundant. Quantitative analysis indicates that food production from the sea has a greater economic potential, than is at present realized. If it were fully utilized and the world's population systematically fed, the emphasis on food source would be significantly different. Copy seen: DLC.

47016. NIELSEN, EIGIL, 1910—. Den "firbenede fisk" fra Central-Østgrønland. (Grønland 1953, hefte 6, p. 201–208, illus., table.) Text in Danish. Title tr.: The "four-legged" fish from central East Greenland.

First finds of this fossil fish were made by some members of Lauge Koch's three-year expedition in 1931–34, including the author, who spent three to four weeks in 1931 on Ymer (approx. 73°10′ N. 23°30′ W.). Later finds brought the number to about 200 individuals. The position of the "four-legged" fish, a link between fishes and amphibians in the evolutionary chain, is explained in detail.

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47017. NIELSEN, EIGIL, 1910— . Forsteningerne fortaeller om fortidens klima, natur, plante- og dyreliv i Central-Østgrønland. (Grønland, 1953, hefte 7, p. 254-61, illus.) Text in Danish. Title tr.: Fossils tell us of climate, nature, plant and animal life in central East Greenland in ancient times.

Surveys conditions during the main geologic periods from Cambrian to Tertiary on the basis of paleontological and geological investigations.

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47018. NIELSEN, EIGIL, 1910—. Spaendende fossilfund i Nordøstgrønland. (Grønland, Aug. 1956, nr. 8, p. 300–306, illus.) Text in Danish. *Title tr.:* Exciting finds of fossils in northeast Greenland.

Finds, made by the author and others, in the area between Scoresby Sund and Danmarks Havn are described. All fossils in this area date from the Permian period. A cephalopod Permoteuthis groenlandicus and some species of plagiostome fishes are treated in detail, the latter important because large parts of calcified skeletons and quantities of scales have been found in Greenland, as well as teeth. Copy seen: DLC.

NIELSEN, EIGIL, 1910-, see also Troelsen, J. C., and others. Greenland. 1956. No. 48471.

47019. NIELSEN, FREDERIK, 1881–. Besøg hos eskimoiske stammefraender på Baffinland. (Grønland, Dec. 1956, nr. 12, p. 441–50, illus.) Text in Danish. *Title tr.:* A visit to Eskimo kinsmen on Baffin Island.

Describes a good-will trip of the author and four other Greenlanders in 1956, sponsored by the Greenland provincial council, and escorted by a cutter of the Greenland naval command. They visited Pangnirtung (66° N. 66° W.) and Frobisher Bay (approx. 63°30′ N. 67°30′ W.), described in some detail. The

Eskimos there were found to lack the tradition of myths, songs and dances existing in Greenland; and foreign influence seemed strong. *Copy seen:* DLC.

47020. NIELSEN, FREDERIK, 1881—En dag i Pangnirtung på Baffinland. (Atuagagdliutit: Grønlandsposten, Oct. 25, 1956. Ukiut 96-iat, nr. 21, p. 4, 6.) Text in Danish and Eskimo. Title tr.: A day at Pangnirtung on Baffin Island. Contains impressions on daily life, dwellings, food, work and leisure of the Eskimo inhabitants. Copy seen: DLC.

47021. NIELSEN, FREDERIK, 1881—. Kirkelivet i Baffinland. (Atuagagdliutit: Grønlandsposten, Nov. 8, 1956. Ukiut 96-iat, nr. 22, p. 12-13.) Text in Danish and Eskimo. *Title tr.:* Church life on Baffin Island.

Impressions of religious life among the Eskimos at Pangnirtung and Frobisher Bay visited in the summer of 1956.

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NIELSEN, FREDERIK, 1881—, see also Denmark. Udenrigsministeriet, Greenland, 1956, No. 44601.

47022. NIELSEN, JØRGEN. Maerkningsforsøg med fjeldørred i Grønland. (Grønland, Jan. 1956, nr. 1, p. 27-32.) Text in Danish. *Title tr.:* Marking experiments with char in Greenland.

Data are given on methods used. In the rivers, electricity is used in catching the fish (equipment and procedure described). 1,697 char have been marked, 178 re-caught to date, mostly in the streams where they were marked. During its stay at sea, the char does not go far from the river where it winters.

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47023. NIELSEN, JØRGEN. Silden ved Grønland. (Grønland, 1953, hefte 6, p. 236-40, illus., map.) Text in Danish. *Title tr.:* The herring off Greenland.

Contains data on the occurrence of herring off (mainly) the Frederikshåb and Julianehåb districts, its spawning and feeding habits, quality, fishery equipment, etc. Herring, increasing in Greenland waters, might prove valuable, especially as bait.

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NIELSEN, KAI C., see Andersen, M., and K. C. Nielsen. Studies . . . renal function . . . experimental hypothermy . . . 1955. No. 43624.

NIELSEN, KAI C., see also Lundberg, N., and K. C. Nielsen. A device for lowering . . . restoring the body temperature in man . . . 1955. No. 46478.

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47024. NIELSEN, LAWRENCE ERNIE, 1917—, and F. D. STOCKTON. Flow patterns in glacier ice. (Journal of applied physics, May 1956. v. 27, no. 5, p. 448-53, diagrs.) 6 refs.

p. 448-53, diagrs.) 6 refs.
"The mass of ice varies along the length of a glacier because of the accumulation of snow in its upper regions and the ablation of ice in the lower regions. This mass change brings about variable speeds of flow and complex streamlines. General equations are derived, using a type of plug flow for ice for the following: glaciers of constant arbitrarily shaped cross sections, arbitrary rates of ablation and accumulation, and arbitrary variations of the longitudinal velocity across the glacier; and glaciers of rectangular cross section with varying widths and depths, arbitrary velocity profiles, and arbitrary rates of ablation and accumulation. Streamlines are calculated for five typical cases by using these general equations. The calculated flow behavior is in agreement with the known behavior of glaciers."-Author's abstract. Changes in the equations to render them more general are suggested by the author in No. 47025. Copy seen: DLC.

47025. NIELSEN, LAWRENCE ERNIE, 1917-, and F. D. STOCKTON. Flow patterns in glacier ice. (Journal of applied physics, Nov. 1956. v. 27, no. 11, p. 1386.)

A mathematical analysis is made of the state of internal stress that moves a long glacier tongue along the rocky beds of a broad valley, based on a mechanical model of such a glacier (see also No. 47024). It is shown that in the surface of the ice, a system of external forces, namely of normal, partially compression, partially tensile stresses and of sheer stresses must act. Copy seen: DLC.

47026. NIEMELÄ, PAAVO PELLERVO. Mitteilungen über die Apiden (Hym.) Finnlands, 1; die Gattung Megachile Latr. (Suomen hyönteistieteellinen aikakauskirja, 1936. v. 2, no. 2, p. 86–96; no. 3, p. 140–49, 14 illus.) 22 refs. Text in German. Title tr.: Notes on the Apidae (Hym.) of Finland, 1; the genus Megachile Latr.

Descriptions of 14 species of leaf-cutter bees, with data on occurrence and geographical distribution, substrate, variations, phenology, color, sexual dimorphism, etc. A key to Finnish species is attached. M. lapponicum recorded in Kuusamo and Finnish Lapland is included.

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47027. NIEMELÄ, PAAVO PELLERVO. Prosopis vallei n. sp. (Hym., Apidae), neu für Finnland. (Suomen hyönteistieteellinen aikakauskirja, 1947, v. 13, no. 3, p. 78–86, 2 illus.) 4 refs. Text in German. Title tr: Prosopis vallei n. sp. (Hym., Apidae) new to Finland.

The new species is described and a critical comparison made with two related bees *P. annulata* and *P. communis;* the former occurs in Kuusamo (Salla) and the Kemi region (Muonio) of Finnish Lapland.

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47028. NIEMI, WILLIAM J. Good season predicted for Alaska road builders. (Pacific builder and engineer, Apr. 1956. v. 62, no. 4, p. 96–97, illus.)

New and carry-over projects planned for 1956 by the Alaska Road Commission are listed; type of work, its location and cost, on each highway, bridge, etc., is described in turn. New contracts totalling more than 8 million dollars will be awarded, and carry-over work amounting to 7 million dollars will be continued.

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47029. NIERSTRASZ, HUGO FRED-RIK, 1872–1937, and G. A. BRENDER à BRANDIS. Three new genera and five new species of parasitic Crustacea. (U. S. National Museum. Proceedings, Apr. 8, 1930, v. 77, art. 9, no. 2832, p. 1–9, 20 illus.) 5 refs.

Includes descriptions of Heptalobus paradoxus n. sp., Bering Sea (53°56'50" N. 167°08'15" W.) on Spirontocaris biunguis, and Duplorbis ocarina n. sp. on Hemiarthrus abdominalis, itself a parasite of Spirontocaris (double or secondary parasitism), collected between Unalaska and Cook Inlet, Aleutian Islands (54°15' N. 166°05' W.).

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NIKIFOROV, F., see Konchaev, V., and F. Nikiforov. Gruzovol teplokhod "Arkhangel'sk." 1956. No. 46060.

47030. NIKIFOROVA, A. T. Nekotorye mikroklimaticheskie osobennosti ûgozapadnykh prilenskikh ralonov ĀASSR. (Akademiā nauk SSSR. Ākutskil filial, Yakutsk. Trudy, 1956, vyp. 1, Materialy o prirodnykh usloviākh i sel'skom

khozířistve ûgo-zapada ÎAkutskoĭ ASSR, p. 22–36, graphs, tables.) 5 refs. Text in Russian. *Title tr:* Some microclimatic peculiarities of the southwestern, Lena valley, districts of the Yakut A. S. S. R.

Account of observations carried out at a net of stations in Olekminsk (1952) and Lensk (1953) districts by D. I. Shashko and the writer, respectively. The problem of spring and early fall frosts and conditions of their occurrence were the center of the study. Areas liable to frost damage and such free from it were determined and their characteristics defined. The zone on the lowest terrace of the Lena not above 250-300m. above the sea level was generally found to have warm conditions. Copy seen: DLC.

NIKIFOROVA, OL'GA IVANOVNA, 1905–, see Andreeva, O. N., and O. I. Nikiforova. Klass Brachiopoda... 1955. No. 43653.

NIKIFOROVA, OL'GA IVANOVNA, 1905–, see also Leningrad. Vses. geologicheskii institut. Polevoi atlas . . . fauny Sibirskoi platformy . . . 1955. No. 46314.

47031. NIKITIN, MAKAR MAKARO-VICH. Observations of currents. Washington, D. C., 1956. 11 p. illus., map, tables. (In: Somov, M. M. Observational data... drifting station 1950–1951, pt. 3, translated by David Kraus.) Supplement of tables is paged from Russian original: 180-403.

The procedures and equipment employed for the observations are described. Regular current observations were made at 10, 75, 150, and 1000 m., and occasionally special studies were undertaken for the entire layer from the surface to 1000 m. Data tabulated for each level include the mean time of observation, relative current, drift, and actual current. No discussion of the data is given.

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47032. NIKITIN, MAKAR MAKARO-VICH. Organization of the oceanographic work. Washington, D. C., 1956. 12 p., 7 illus. & diagrs. (In: Somov, M. M. Observational data . . . drifting station 1950–1951, pt. 1; translated by E. R. Hope.)

Oceanographic work included depth soundings, collection of bottom samples, temperature observations at different levels, collection of water samples, current observations, and collections of specimens of zooplankton, phytoplankton, and benthic fauna. Observations were made Apr. 15, 1950.—Apr. 11, 1951 by drifting station North Pole-2 in the Arctic Basin north of Bering Strait. The equipment and procedures employed are given, and construction of the observation stations is illustrated.

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47033. NIKITIN, MAKAR MAKARO-VICH. Wind observations by damper vane. Washington, D. C., 1956. 5 p. illus., tables. (*In:* Somov, M. M. Observational data . . . drifting station 1950–1951, pt. 9; translated by David Kraus.)

Observations were made by drifting station North Pole–2 in the Arctic Basin north of Bering Strait from July 21, 1950 through Apr. 8, 1951. A specially constructed recording anemometer fitted with a hydraulic damping device to reduce vane oscillations was used. The anemometer is described and illustrated. Hourly wind data for selected periods are tabulated in appendix p. 500–516 reproduced from the Russian edition.

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NIKITIN, MAKAR MAKAROVICH, see also Brodskii, K. A., and M. M. Nikitin. Hydrobiological work. 1956. No. 44141.

47034. NIKITIN, P. V. Keramzit: zapolnitel' legkikh betonov. (Bûlleten' stroitel'nof tekhniki, Apr. 1956. t. 13, no. 4, p. 6–8.) Text in Russian. *Title tr.:* Keramzit: filler for light concretes.

Contains description of composition and method of preparation of the frost-resisting filler "Keramzit" for concrete. "Keramzit" is freed from detrimental impurities of clay at different firing temperatures (600° to 1100° C.) in a rotating furnace. Basic materials can be used: slate, clay, loam, argillaceous soils, loess and other types of soil. The clay is subjected to thermal treatment in two stages: one at 300°-700° C., the other at the swelling temperature. "Keramzit" is frost resistant, a poor transmitter of heat and sound, light in weight; compression stress of concrete varied from 25 to 450 kg/cm.2, specific weight from 600 to 1800 kg/m.3 Copy seen: DLC.

47035. NIKITIN, PETR. "V stranu budushchego;" zapiski Fritiofa Nansena o Sibiri. (Ogonëk, Nov. 1956. god 34, no. 46, p. 25, port.) Text in Russian. *Title tr.*: "To the country of the future;" Fridtjof Nansen's notes on Siberia.

Cites Nansen's description of his trip to the Yenisey in 1913 on the Korrekt, in reference to economic possibilities of the country. Realization of these possibilities is claimed through Soviet rule.

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47036. NIKITINA, N. I. Venoznoe davlenie pri operatsifakh pod gipotermiel. (Éksperimental'nafa khirurgifa, 1956. god 1, no. 4, p. 19–27, illus.) 5 refs. Text in Russian. Summary in English. Title tr.: Venous pressure in surgery under hypothermia.

Report based on 18 thoracic operations under hypothermia of 32 to 29° C. With proper anesthesia venous pressure stayed normal. Its rise preceded tachycardia, the latter indicating cardiac insufficiency

due to myocardial hypoxia.

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47037. NIKOLAEV, K. Budushchee stuchit v dver'. (Vokrug sveta, Nov. 1956. no. 11, p. 1–7, illus., map.) Text in Russian. *Title tr.:* The future knocks at the door.

Popular account of progress on the large-scale hydro-electric construction on the Angara River at Irkutsk and Bratsk. Importance of these installations as a source of power for the planned industrial development of area is stressed.

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47038. NIKOLAEV, K. K polûsu—naprolom; reportazh-fantastika. (Vokrug sveta, Apr. 1956. no. 4, p. 13–15, illus.) Text in Russian. *Title tr.:* Straight on to the North Pole; a reporter's fantasy.

Visionary tale of a winter trip of an atom-powered 20,000-ton Soviet ice-breaker from Murmansk to the North Pole; there the vessel was greeted by personnel of the Soviet drifting station operating in the vicinity.

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47039. NIKOLAEV, N. I. Izuchenie profsessov vyvetrivanifa. (*In:* Obruchev, S. V. Spravochnik puteshestvennika, t. 2, 1950, p. 17–27, diagrs.) 21 refs. Text in Russian. *Title tr.:* Study of the weathering processes.

Contains instructions for observation and investigation of rock disintegration processes due to physical, chemical and biological weathering and erosion, and to rock waste, stone avalanches, etc. Cold and permafrost areas of the U. S. S. R. are characterized by (slow) weathering from wind and frost and production of stone rivers.

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47040. NIKOLAEV, N. I. Opyt postroenifa geneticheskof klassifikatsii ėkzogennykh fiziko-geologicheskikh profsessov. (Akademifa nauk SSSR. Komissifa po izuchenifa chetvertichnogo perioda. Trudy, 1948. t. 7, vyp. 1, p. 3–13, tables, diagr.) 16 refs. Text in Russian. Title tr.: A genetic classification of exogenous physico-geological processes.

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"Recent classifications of destructive processes associated with the action of air, frost, water, ice, and organic substances are outlined and discussed. The course of the processes from initial weathering to the deposit of detritus is described, and a new genetic classification is presented with diagrammatic arrangement. Emphasis is given to features of frost weathering and thermal denudation in permafrost, where processes differ greatly from those occurring in zones of seasonal ground freezing. Permafrost degradation and the melting of fossil ice resulting in denudation cause serious displacement of ground strata and the formation of thermokarst."-SIPRE.

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NIKOLAEV, N. I., see also Obruchev, S. V. Spravochnik puteshestvennika . . . 1949–50. No. 47123.

47041. NIKOLAEV, S. I. Gde zhili toksomskie îâkuty xvii veka? (Akademifâ nauk SSSR. Institut êtnografii. Kratkie soobshehenifâ, 1956. no. 25, p. 56–59, map.) 10 refs. Text in Russian. Title tr.: Where did the Toksoma Yakuts live in the 17th century?

Attempt is made to identify Lake Toksoma, a name not used since the 18th century due to the Yakut practice of changing place names of non-Yakut origin. Clues in 17th century documents indicate it may be the present Lake Takyma, between the Khatyng-Yuryakh and Berge (Tyugene) Rivers, 10 km. northeast of Lake Kobyay (63°30′ N. 127°10′ E.). If so, the Toksoma Yakuts belonged to the Vilyuy and not the central Yakut group.

\*\*Copy seen: DLC.\*\*

47042. NIKOLAEV, V. Gimnasty îAkutii. (Fizkul'tura i sport. June 1956. god 26, no. 6, p. 9, illus.) Text in Russian. Title tr.: Gymnasts of Yakutia.

Oullines progress of physical training in Yakutia in the last decade: gymnastic activities in Yakutsk and other towns, including Vilyuysk, Tiksi, Nizhniye Kresty; outstanding Yakut athletes, etc.

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47043. NIKOLAEVA, T. V. Klass Anthozoa - korallovye polipy. Podklass Rugosa ili tetracoralla - chetyrekhluche-(In: Leningrad. korally. Vsesovve füznyĭ geologicheskiĭ institut. Polevol atlas ordovikskoľ i siluriľskoľ fauny Sibirskol platformy, 1955. p. 21-24, Text in Russian. Title tr.: illus.) Class Anthozoa-coral polyps. Subclass Rugosa or tetracorals.

Contains a description of the anatomy of these extinct forms; their occurrence (mainly in the Silurian); recognition in the field. Six species, all new, are de-

scribed and illustrated.

Copy seen: DLC.

47044. NIKOLAISEN, P. Furuskog op under polarcirkelen. (Tidsskrift for skogbrug, Dec. 1909. Aarg. 17, nr. 12, p. 285–86.) Text in Norwegian. *Title* tr.: Pine forest up under the Arctic Circle.

The island of Vega (65°39′ N. 11°55′ E.), a western outpost off the coast of northern Norway, has pine growing on its west side but not on the east. In a locality about 4 km. long, young trees grew 25 cm. in a summer. Older trees reached a height of 10–12 m. with basal diameter of 24 inches. Copy seen: DA.

47045. NIKOL'SKAÎA, VERA V. K geomorfologii zapadnoî chasti Aldano-Okhotskogo vodorazdela. (Moskovskoe obshchestvo ispytatelef prirody. Bûlleten', 1946, god 117, otdel geologicheskiî, t. 21, no. 2, p. 82–99, illus.) 13 refs. Text in Russian. Summary in English. Title tr.: Geomorphology of the western part of the Aldan-Okhotsk watershed. Contains description of the Quaternary

formations, geomorphology and history of the region between 60°-63° N. 134°-140° E. Orogenic movements occurred during the Variscian, Verkhoyanian and Alpine epochs. The following types of Quaternary deposits are considered: glacial, lake-glacial, alluvial (buried and contemporary), lake-alluvial, eluvial-deluvial, deluvial-solifluctional, and oroganic. Processes related to the formation of the topography are noted, and

relief forms are distinguished. In south Verkhoyansk three events took place during the Quaternary: deep pre-glacial erosion; continental glaciation in the northeast section; and post-glacial uplift, deep erosion and partial displacement of the river systems. Copy seen: DLC.

47046. NIKOL'SKAĀ, VERA V., and A. V. STANKEVICH. Nekotorye fizikogeograficheskie cherty basseIna verkhnego techeniâ r. Vel'mo, basseIn Podkamennof Tunguski. (Akademiâ nauk SSSR. Institut geografii. Trudy, 1955. vyp. 64, Materialy po fizicheskoI geografii SSSR, p. 193–200, diagr., map.) 4 refs. Text in Russian. Title tr.: Some physical geographic features of the upper Vel'mo River basin, in Podkamennaya Tunguska basin.

The geology, soils, climate and vegetation in the upper reaches of the Vel'mo River (61°33′ N. 92°57′ E.) the largest left tributary of Podkamennaya Tunguska, are characterized from the author's observations. This little explored and hitherto undescribed taiga area is covered with larch and spruce forests, and is inhabited by Tungus (Evenki). The four geomorphic zones of the area are sketched and tributaries of the upper Vel'mo noted with schematic map.

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47047. NIKONOV, MIKHAIL NIKO-LAEVICH. O zakonomernostíakh razmeshcheniá torfíanykh zalezheľ i osobennostíakh sovremennogo torfonakopleniía. (Akademiía navuk BSSR, Minsk. Instytut torfa. Trudy, 1954. t. 3, p. 40–50, map.) 9 refs. Text in Russian. Title tr.: Regularities in the distribution of peat deposits and characteristics of the present peat formations.

The distribution of peat deposits is considered from the viewpoint of their regional intensity, and of the geological, climatic and other factors involved. Areas of very low, low (from a fraction to a few tons per hectare), and high production (10-a few 100 t./h.) are analyzed, mainly the last, which is identified largely with northern parts of European and Siberian U. S. S. R. and Canada (map, p. 41). This high production area is estimated at some 9 million sq. km., which is about six percent of the earth's surface, and represents about 90 percent of world peat resources. Analysis of peat distribution also indicates that it forms generally in the zone with moisture coefficient more than 1.0, or within the zone where seasonal precipitation exceeds the The mechanism of peat evaporation. formation is affected by hydrological and hydro-chemical processes. Temperature influence, more complicated, involves direct effect of air temperature, also conditions of permafrost which determine the northern limit of the belt of intensive peat formation. This belt usually lies on the boundary of spreading Quaternary glaciers, with the exception of the West Siberian lowland, which is located south of this boundary. Climatic variations within the zone of intensive peat formation have little effect on the intensity except in far northern regions. European U. S. S. R., the area is divided into three zones: in the southern, peat forms exclusively on lowlands; in the central zone, on lowland and upland; and in the northern zone on high level ground. Volumetric distribution of peat is not uniformly affected by geomorphic and geological factors. Topography and erosion factors distort the regularity in formation and distribution of peat deposits. Copy seen: DLC.

NIKONOV, MIKHAIL NIKOLAEVICH, see also Ziza, A. A., and M. N. Nikonov. Sel'skokhozířístvennoe ispol'zovanie . . . bolot. 1955. No. 49070.

NIKUL'KOV, A., see Lisovskii, K., and A. Nikul'kov. Shturm Obi. 1956. No. 46395.

NIKUL'SHIN, N. P., d. 1942?, see Vasilevich, G. M. Evenki. 1956. No. 48693.

47048. NILSEN, SCHJOLBERG. Litt om ismarkenes konge. (Polarboken, 1956, p. 56-64, illus.) Text in Norwegian. *Title tr:* Note on the king of the ice regions.

One of the Norwegians taken to Svalbard during World War II to man a weather station comments upon polar bear hunting incidents on Svalbard, Jan Mayen and East Greenland, and on dogs and dog sledding. *Copy seen:* DLC.

47049. NILSON, BIRGER. Die Flechtenvegetation des Sarekgebirges. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 3, Botanik, pub. 1907. Lfg. 1, p. 1–70, tables, 9 plates.) Text in German. Title tr: The lichen vegetation of the Sarek Mountains.

A study based on author's collections during midsummer 1903, with the Hamberg Expedition. A general part (p. 3-22) deals with the distribution of lichens in this area (approx. 67°27' N. 17°40' E.); the substrate, formation of soredia, the effect of prolonged snow cover upon the lichens, their development at the edge of glaciers, the occurrence of color and of "rusty" forms. The general part is followed by description of 288 species (five probably new) in a taxonomic order, with notes on location of find, substrate, etc. The recorded species are listed on tables, with descriptions of their substrate.

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NILSSON, BERTIL, see Beskow, H., and others. Norrbottens bygd . . . 1953. No. 44014.

47050. NILSSON, ERIC. Hypotermi, ett nytt medel inom läkekonsten, 3; anestesiologiska synpunkter. (Nordisk medicin, 1956. bd. 56, no. 44, p. 1585–87, illus.) 14 refs. Text in Swedish. Summary in English. *Title tr:* Hypothermia, a new means in medicine, 3; anesthesiologic considerations.

Contains a discussion of the uptake, detoxication and elimination of various anesthetics during hypothermia, respiratory physiology, and the role of lowered metabolism on the course of general anesthetics; depression and suppression of central thermoregulation and their significance in anesthesiology; control of shivering, etc. Other papers in this series are by J. Adams-Ray and P. Lindgren, q. q. v. Copy seen: DNLM.

47051. NISHIMOTO, SETSUO. Report on whale marking in the North Pacific, 1950. Tokyo, 1951. 25 p. illus., tables, maps. (Japan. Fisheries Agency. Report on whale marking in Japan, no. 2.)

Account of 18 months' marking operations in a belt of some 700 miles east of Hokkaido, between latitudes 39° and 43° (approx.). Information is presented on the plan, the survey boat, its crew, the investigators and methods, with a summary of whales observed. Marking results and chances are given. Whales discovered are described, their species, size and location. Weather conditions are noted. Data are included on distribution of the whales in the area and on capture of marked whales.

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47052. NISSEN, KRISTIAN, 1879—Noen gledelige botaniske iakttagelser t Finnmark sommeren 1950. (Blyttia, 1951. bd. 9, hefte 1, p. 23–25.) Text in Norwegian. *Title tr:* Some pleasant botanical observations in Finnmark during the summer of 1950.

As member of the Norwegian-Finnish border commission, the author revisited the border region in 1950 after 25 years' absence; he found new forest growth extending from the lowland to the upper forest limit, also spread of *Thymus serpyllum L.* and *Rosa cinnamonea L.* in remembered localities; developments are attributed to amelioration of climate.

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47053. NIVEN, CHARLES DAVID. The friction of ice and its economic significance. (Engineering journal, Mar. 1956, v. 39, no. 3, p. 226–27, 230, diagrs.) 5 refs.

"Various theories advanced to explain friction of ice and other materials are reviewed. With normal substances in sliding contact, increase of pressure (loading) tends to facilitate solidification, but in the case of ice it tends to retard solidification and thus decrease friction. The reduction of friction of ice with increase of load (verified in laboratory tests) implies a violation of Amontons' law in addition to raising a significant economic implication. Great commercial possibilities from cheap transportation appear to be provided by the immense icecovered areas of much of the Arctic."-SIPRE. Copy seen: DLC.

47054. NIVEN, CHARLES DAVID. On the effect of speed on the kinetic friction of some plastic materials on ice. (Canadian journal of physics, Apr. 1956. v. 34, no. 4, p. 362–69, diagrs., table.) 3 refs.

Contains a laboratory study on friction values for samples measuring 2.5 x 4.5 cm. of various plastic materials. Drag vs. load curves at -5° and -15° C. are presented. Bakelite and teflon have the lowest values, polyethylene a comparatively high one. Departure from Amontons' law was particularly pronounced at high speeds. High speed reduced friction more markedly at -15° C. than at -5° C. Copy seen: DLC.

**47055. NIVEN, CHARLES DAVID.** On the friction of heated sleigh runners on ice under high loading. (Canadian jour-

nal of technology. July 1956. v. 34, no. 4, p. 227-31, diagrs.) 5 refs.

Contains description of experiments made at speeds of approx. 2 and 6 m. p. h. on a model sled with stainless steel runners heated electrically to 0° C. and unheated, and loaded up to 54 kg./sq. The results indicate that artificially supplied heat cannot act on the asperities of the ice rapidly enough to have much effect on drag. It is inferred that heated runners would not be of economic importance for mechanical transportation at 20 or more m. p. h. Copy seen: DLC.

47056. NOBLES, LAURENCE HEWIT, 1927- . Foliated structures in glacier ice, (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2.

p. 1723-24.)

Abstract of paper submitted for Society meeting in Minneapolis, Oct. 31-Nov. 2, 1956. Studies in "cold" glacier ice in northern Greenland have revealed a wide range of tension and shear structures in areas of high and of low flow rates. Normal foliation, abnormally thick blue "yellow" foliation (unequally distributed, finely divided debris), debris bands, and "relict" banding are noted. Tension cracks, crevasses, and ice dikes crosscut the foliation at high angles. Copy seen: DGS.

47057. NOBLES, LAURENCE HEWIT, 1927- Glaciology of the Nuna Ice Ramp. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, pub. 1954. p. 53-72,

map, diagrs.) 3 refs.

Observations of a marginal area of the Greenland icecap, consisting of a highland icecap composed of a relatively thin ice carapace resting on a very rugged sub-ice topography, are presented. Negative temperatures prevail in all but the upper few feet of the icecap throughout most of the year. Melting is intense in marginal regions during July and Aug. The firn line in the Nunatarssuak region was at an elevation of about 3100 ft. in late Aug. The daily rate of ablation correlates very closely with the average air temperature recorded at stations on the ice, but correlations with wind velocity, sky cover, and radiation could not be established with certainty. Meltseason trafficability of the ramp is discussed as an indicator of general. conditions in marginal ice areas in the wet-snow zone of North Greenland. In the vicinity of Nuna Knob the ramp

ice is moving at a maximum rate of about 2 in./day. The ice of Moltke Glacier is moving at a maximum rate of more than 3 ft./day. Numerous pits dug in firn provided information on the composition, structure, density, and thermal regime of the snow. Surface features below the firn line such as slush, hummocks, pits coated with brown algae, and streams are described. Slush and streams were the most serious hazards in the area. Copy seen: CaMAI.

47058. NOCKHER, LUDWIG. Fridtjof Nansen, Polarforscher und Helfer der Menschheit. Stuttgart, Wissenschaftliche Verlagsgesellschaft, 1955. 236 p. illus., ports., maps incl. 1 fold. Over 150 refs. (Grosse Naturforscher, Bd. 19.) Text in German. Title tr.: Fridtjof Nansen; polar explorer and humanist.

Biography of Nansen, 1861-1930; includes account of his traverse of the Greenland icecap, 1888-89, studies of Eskimos, the Fram expedition 1893–1896 (p. 29-129); his trip to Spitsbergen in 1912 and voyage to Siberia on the Korrekt in 1913 (p. 146-56). Nansen's activities in helping refugees after World War I is stressed. References include list of Nansen's (110) publications.

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47059. NOE-NYGAARD, ARNE, 1908- . Comparaison entre les roches grenues appartenant à deux orogénies precambriennes voisines au Groënland. (Sciences de la terre, 1955. Numero hors série, p. 61-75, 2 text maps, diagr., table.) 11 refs. Text in French. Title tr.: Comparison between the equi-granular rocks belonging to two neighboring Precambrian orogenies in Greenland.

Contains results of investigations of the "Nagssugtoquidian" mountain chain in the Nordre Strømfjord region (67°30' N. 53°30' W.) and the "Godthaabidian" chain on Tovqussaq Peninsula (64°51′ N. 52°05′ W.), both part of the Precambrian basement complex of West Greenland. A structural and petrologic analysis was made of the central zone (one of three, cf. No. 24683, 30999) of the "Nagssugtoquidian chain which has undergone recrystallization under granulite facies conditions. Comparisons are made with rocks of the Toyqussaq region, and some conclusions are drawn as to the granitization process in both areas. Discussion follows the text (p. 73-75).

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47060. NOE-NYGAARD, ARNE, 1908— . Granit og gnejs. (Naturens verden, København, 1953. årg. 37, hefte 9–10, p. 266–76, 3 diagrs.) Text in Danish. *Title tr.:* Granite and gneiss.

Regional metamorphism, mineral facies, and granitization are discussed in a comparison between the classic interpretation of granite developing from a deepseated magma and the more recent transformation theory. By the latter, granite is regarded as made up of sedimentary deposits invested by migma from below but subjected to comparatively low pressure. Granite is viewed as a result, rather than the cause, of regional metamorphism. Wet and dry developments of granite by transformation are described. Primary gneisses and striped granites are believed to be remnants that have escaped later pressures sufficient to produce higher grades of metamorphism.

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**47061.** NØIS, DANIEL. Utenfor lov og rett. (Polarboken, 1956, p. 24–30, illus.) Text in Norwegian. *Title tr.:* Outside of law and justice.

A Svalbard hunter relates an incident (1905) in which law and justice were bypassed when the chief of the Spitsbergen Coal and Trading Company assumed charge of nearby property and treated hunters unfairly.

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47062. NOGID, L. M. O derevíannykh sudakh políarnogo plavanifa. (Sudostroenie, Feb. 1938. god 8, no. 2 (74), p. 135–40, illus.) Text in Russian. Title tr.: Wooden ships for arctic navigation.

Reviews the use of wooden vessels of special design with attention to older expeditionary vessels, the Fram, Maud, Perset, Eklips, the Nerpa and other whalers and hunting vessels. The shape and construction of the hulls, highly resistant to ice pressure, are discussed, with reference to the detailed drawings and tabulation of main dimensions which are supplied. Experience of Nansen, Amundsen and Sverdrup (cited) indicate that ships of this form demonstrated poor sailing characteristics in open rough sea, but in ice of high pressure, they were lifted from the water.

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NOOTH, JOHN MERVIN, see Dillon, R. H. Peter Pond and . . . route to Cook's Inlet. 1951. No. 44627.

47063. NORDENMARK, NILS VIKTOR EMANUEL, 1867—. Iakttagelser under den totala solförmörkelsen den 9 aug. 1896 vid Stora sjöfallet. (Svenska turistföreningen, Stockholm. Årsskrift, 1897, p. 71–76, illus., diagr.) Text in Swedish. Title tr.: Observations of the total solar eclipse, 9 Aug. 1896, at Stora Sjöfallet.

Scientific records of the eclipse consisted of photographs, enlarged to enable measurement of coronal protuberances, temperature data, and color effects. Actual length of protuberances was calculated, as was angle of solar pole from the zenith.

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47064. NORDENSKIÖLD, NILS ADOLF ERIK, Friherre, 1832–1901. Mineralogiska bidrag, 6; trenne märkliga eldmeteorer, sedda i Sverige under åren 1876 och 1877, III, meteoren (kometoïden) af den 29 April 1877. (Geologiska föreningen, Stockholm. Förhandlingar, 1878. bd. 4, häfte 5, no. 47, p. 117–55, 3 plates incl. map.) Text in Swedish. Title tr.: Mineralogical contribution, 6; three remarkable meteorites seen in Sweden in 1876 and 1877, III, the meteor (cometoid) of April 29, 1877.

The meteor of April 29, 1877, which exploded about 35 km. above the earth between Luleå and Nederkalix, was observed from several places in Lapland. Reports were collected on time and duration of visibility, afterglow, color, route, and apparent size, also on the shower of stones near Sarvikobbo and on attempts to locate fragments. Map shows route of meteor and observation points.

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47065. NORDENSKIÖLD-SAMFUN-DET I FINLAND. Skärgårdsboken; författad av finlandssvenska forskare. Redaktör: Håkan Lindberg. Helsingfors, 1948. 699 p., illus., ports., maps incl. fold. col., in pocket. Text in Swedish. Title tr.: The Skerries book; written by Finland's Swedish scientists.

Contains 30 papers, two of them of particular interest in relation to the North, abstracted in this bibliography under their authors' names, viz. (titles translated):

LUNELAND, H. Solar radiation and solar climate.

LINDBERG, H. Northern and southern elements in the insect fauna of coastal waters. Copy seen: DLC.

47066. NORDENSKJÖLD, NILS OTTO GUSTAF, 1869–1928. Ueber postarchaeischen Granit von Sulitelma in Norwegen und über das Vorkommen von s. g. Corrosionsquarz in Gneisen und Graniten. (Upsala. Universitet. Mineralogisk-geologiska institut. Bulletin, 1894–95. v. 2, p. 118–28, diagr.) Refs. in text. Text in German. Title tr.: On the post-archean granite about Sulitielma in Norway and the occurrence of the so-called corrosion quartz in gneiss and granite.

The granite near Sulitjelma, which appears as lenses, layers, or dikes, is believed to be a postarchean eruptive, injected into the surrounding rock under high pressure during the building of the Scandinavian mountain chain. In age it approaches the Baltic rapikivi granite but its structure resembles that of the gneiss and basement complex. Macroand microscopic descriptions of the granite and corrosion quartz are presented.

47067. NORDHAGEN, ROLF, 1894—. Bidrag til Norges flora, II; om nyere funn av Euphrasia lapponica Th. Fr. fil. i Norge. (Blyttia, 1952. bd. 10, hefte 2, p. 29–50, 2 illus., text map.) 22 refs. Text in Norwegian. Summary in Eng-

Text in Norwegian. Summary in English. *Title tr.:* Contributions to the flora of Norway, II; new records of *Euphrasia lapponica* Th. Fr. fil. from Norway.

Contains a review of literature (p. 29–32) on Euphrasia salisburgensis and E. lapponica Th. Fr. fil. The latter, an herb endemic to Scandinavia, is found widely over northern Norway and Sweden and in the Enontekis district of Finland, nearly always in company with Dryas octopetala, Carex rupestris and other species inhabiting basic or neutral rocks and soils in dry locations.

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47068. NORDHAGEN, ROLF, 1894—. Studies on some plant communities on sandy river banks and seashores in Eastern Finmark. (Suomalainen eläinja kasvitieteellinen seura Vanamo. Tiedonannot (Archivum) 1955. v. 9, suppl., p. 207–225, 11 illus., 8 tables.) 18 refs.

Contains an ecological and statistical study of plant communities linked with the Arctic and northeastern Europe, based mostly on quadrat analyses. Association complexes on or near river banks (the Tana and its tributaries, Karasjokka and Anarjokka) are divided into five

belts. Association complexes on sandy seashores and dunes with the eastern species *Dianthus superbus* and *Oxytropis campestris sordida* (between Komagvaer and Kvalnes, Varanger Peninsula) are zoned into four belts.

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47069. NORDHUS, HENRIK. Kirkenes i krigsåra 1940–1945; Kirkenes brannvesens og Det sivile luftverns beretning. Oslo, Sør-Varanger kommune, 1948. 79 p. illus. Text in Norwegian. *Title tr.:* Kirkenes during the war years 1940–1945; report of the Kirkenes Fire Dept. and the Civil Air Defence units.

Contains an introductory statement on the town of Kirkenes: its area, elevation, population, water supply, organization and equipment of the fire department; followed by a chronological record of the aerial attacks and fires May 4, 1940–Oct. 1944, and experience of the German occupation generally. Troops stationed there, costs to the municipality, living conditions, incidents between Norwegians and Germans, etc., are reported; 31 photographs taken 1940–1944 show local destruction.

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47070. NORDIN, SVEN-ERIK. Sveriges varutrafik med utlandet, i dess fördelning på viktigare hamnar och gränsbanor 1922–1934. Uppsala, Appelberg, 1937. 104 p. 5 text maps, 20 tables. (Geographica, nr. 2.) 20 refs. Text in Swedish. Title tr.: Sweden's commodity traffic with foreign countries, its distribution between important harbors and border railways 1922–1934.

Includes consideration of Norrland's mineral and forestry exports which are higher in value and volume than any single category of exports from other provinces. Figures are tabulated for the period 1922–1934. The short rail haul to Narvik, Norway, and its ice-free port are important considerations in the shipment of northern ore. Luleå and Sundsvall are the chief export ports on the Gulf of Bothnia. Imports for arctic Sweden come mainly into Stockholm.

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47071. NORDLAND, O. S. Occurrence of listeriosis in arctic mammals, with a note on its possible pathogenesis. Kingston, Aug. 1955. 21 p. (Canada. Defence Research Kingston Laboratory. Report no. 47.) 26 refs.

Account of bacteriological, immunologi-

cal and pathological examinations of lemmings (born in captivity or trapped), voles and arctic foxes. Listeria monocytogenes was isolated from two lemmings and from a seemingly ill arctic fox caught at Fort Churchill. Listeriosis as a possible public health problem in the North, is discussed.

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47072. NORDLI, ERLING. Salinity and temperature as controlling factors for distribution and mass occurrence of Ceratia. (Blyttia, 1953. bd. 11, hefte 1, p. 16–18, diagrs., text maps) 3 refs. Summary in Norwegian.

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Culturing of several species of these diatoms has led to determinations of optimum conditions for growth off Norwegian shores. Several Ceratium species flourish in the area 62°-70° N. to 300-400 km. off the coast; it may be distinguished as a biogeographical region separated from the ocean to the westward by summer temperature and salinity borders.

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NORDSTRÖM, FRITHIOF, 47073. De fennoskandiska dagfjärilarnas utbredning: Lepidoptera diurna, Rhopalocera & Hesperioidea. Under medverkan av M. Opheim och K. J. Valle. Lund, Gleerup, 1955. 177 p., 118 text maps. (Lund. Universitet. Arsskrift, n. f. avd. 2, bd. 51, no. 1) ca. 600 Text in Swedish. (Acta universitatis Lundensis, n. s. Fysiografiska sällskapet i Lund, Acta, Handlingar, n. f. bd. 66, no. 1.) Title tr: On distribution of butterflies in Fennoscandia: Lepidoptera diurna, Rhopalocera & Hesperioidea. With collaboration of M. Opheim and K. J. Valle.

Contains an annotated list of 118 species of day-butterflies with detailed data on distribution in Fennoscandia, including Kola Peninsula. Localities and collectors are listed; northern limits of distribution are indicated, and distributional maps supplied for each species, many of them arctic species.

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47074. NORDSTRÖM, TH. Sveriges malm- och metall-produktion, 1885. Efter "Bidrag till Sveriges officiela statistik. C. Bergshandteringen. Com. Coll: ii underdåniga berättelse för år 1885." (Geologiska föreningen, Stockholm. Förhandlingar, 1887. bd. 9, häfte 1. no. 106, p. 37-41.) Text in Swedish. Title tr.: Sweden's ore and metal production 1885. Compiled from "Bidrag till Sveriges officiela statistik, C. Bergshand-

teringen. Com. Coll: ii underdåniga berättelse för år 1885."

Of Sweden's 753 iron mines operating in 1885, 381 are noted to be in the Luossajarvi-Gällivare district in the far North. Copy seen: DGS.

47075. NORGES GUIDEN. The Norwegian guide. Oslo, Evident reklame, 1950? 82 p. maps. Text in Norwegian and English.

Brief selective descriptions for tourists, of 54 populated places and well known localities. **Copy seen:** DLC.

47076. NORIN, B. N. Osobennosti semennogo vozobnovlenia drevesnykh porod na p-ve Malyi Amal. (Rastitel'nost' Krainego Severa SSSR i ee osvoenie, 1956. vyp. 1, p. 46–60, illus., diagrs., tables.) 55 refs. Text in Russian. Title tr: Features of seed reforestation of some species of trees on the Malyy Yamal Peninsula.

Results of the author's observations in 1953–54, of the natural reproduction of Siberian larch (*Larix sibirica*), birch (*Betula nana*) and spruce in various types of plant association in the Nyda basin (66°05' N. 74°52' E.) on Malyy Yamal, i. e. the Taz Peninsula. This process in the thin forests of the area is reduced by poor seed, lack of moisture, especially on the watersheds, and by the root system of mature trees spreading wide in the thin soil layer. *Copy seen:* DLC.

47077. NORLINDH, SVEN. Översikt över Sveriges vattenkraft. Stockholm, 1924. viii, 40 p. 4 fold. maps, tables. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, bd. 1, no. 5.) Text in Swedish. *Title tr.:* Summary of Sweden's water power.

Power development of the Swedish river systems is briefly reviewed and industrial consumption noted. Most of the power is concentrated in the larger falls and in rivers from the uplands, the Lule River in Norrland having both the greatest potential and the highest falls. For all the river systems (listed north to south), tabulated data are presented on the drainage area, height of individual falls, and the potential and developed power of each. On three sectional maps, all falls are indicated by proportional circles accompanied by numerals indicating power figured on average flow. Sweden's potential power is compared with that of other parts of the world.

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47078. NORLING, GUNNAR. Glaciärsommar i Sarek. (Svenska turistföreningens årsskrift 1956. p. 289–308, 13 illus., 2 text maps.) Text in Swedish. Title tr.: Glacier summer in Sarek.

Living for three weeks in 1954 on the upland of the Sarek mountain group of northern Sweden, and supplied by airdrop, the author and two companions studied the glaciers of the region. Since 1897, Mikkaglaciär (67°25' N. 17°42' E.) had diminished considerably, owing to the recent warmer climate. Relationships of crack systems to glacial condition is discussed. The front of Mikka had retreated 105 m. in six years and 457 m. in 41 years, with a volume loss of 416 million cu. m. of water per year. Other nearby glaciers have been similarly affected. Copy seen: DGS.

47079. NOROIS. Existence d'un circuit autonome en mer de Beaufort. (Norois, Jan.-Mar. 1955. année 2, no. 5, p. 120-22, text chart.) 3 refs. Text in French. Title tr.: Existence of an independent

eddy in the Beaufort Sea.

Based on No. 32994. During Project Skijump I and II in 1951 and 1952, an anticyclonic eddy of Atlantic water was discovered in the Beaufort Sea, entirely distinct from the cyclonic eddy long known in the central and eastern Arctic Basin. The freshness of surface water in the Arctic Basin depends more on distance from the source of salty Atlantic water than on proximity to coastal rivers. Observations on water temperature are given. Activities of U. S. and Canadian ice-breakers in the Northwest Passage, summer 1954 are also noted.

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NORRIS, KENNETH STAFFORD, 1924–, see Brown, D. H., and K. S. Norris. Observations of captive and wild cetaceans, 1956. No. 44153.

47080. NORSK GEOLOGISK TIDS-SKRIFT. Second Nordic Geologic Winter Meeting. II nordiske geologiske vintermøte. Oslo, January 5-8, 1956. (Norsk geologisk tidsskrift, 1956. bd.

36, hefte 2, p. 69-88.)

The meeting, attended by delegates from Denmark, Finland, Norway and Sweden is described (in English). Brief (30–75 words) abstracts are added of the 42 papers presented, with titles translated into English, and abstracts in Danish, Norwegian, or Swedish. Those dealing

with northern Scandinavia and Greenland are:

Berthelsen, A. Field-observations of gabbro-anorthositic and dioritic rocks of the Sukkertoppen and Godthåb districts.

Bondam, J. Gabbro-anorthosites formed by retrograde metamorphism from the Frederikshåb district, Southwest Greenland.

Føyn, S. Stratigraphy and tectonics south of Laksefjorden, Finnmark.

Holmsen, P. The basal beds of the hyolithus zone in Vestfinnmark.

Holtedahl, H. On sediments in the Norwegian Sea.

Lindström, M. On the Caledonian folding at Torneträsk.

Padget, P. The Precambrian geology of Vestfinnmark.

Sørensen, H. Anorthosite from Greenland.

Vokes, F. M. Copper sulphide deposits in the Birtavarre district, Troms.

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47081. NORSK POLAR-TIDENDE. En eventyrskikkelse i norsk kirke- og kulturliv: Nils Joachim Christian Vibe Stockfleth. (Norsk polar-tidende: Polar-årboken 1953, p. 12–15.) Text in Norwegian. Title tr.: A fairy-tale figure in Norwegian church and cultural life: Nils Joachim Christian Vibe Stockfleth.

Sketches work of Stockfleth, 1787–1866: a law student, then army officer, he became ordained in 1825 and worked as a priest in east Finmark. His problems and difficulties: distances, primitive conditions, etc., are described. Stockfleth interested himself particularly in Lappish and is said to have created the written language. His publications, text-books, a grammar and dictionaries, Lappish translation of parts of the Bible and other religious works are noted.

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47082. NORSK POLAR-TIDENDE.
Roald Amundsens første selvstendige
polarekspedisjon. (Norsk polar-tidende:
Polarårboken 1953, p. 6–7, 30–31.) Text
in Norwegian and English. Title tr.:
Roald Amundsen's first independent
polar expedition.

Notes Roald Amundsen's expedition through the Northwest Passage in the  $Gj\phi a$  in 1903–1906.

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47083. NORSK SKOGBRK. Forslag om cellulosefabrikk i Sør-Varanger. (Norsk skogbruk, Feb. 1956. årg. 2, nr. 4, p. 133.) Text in Norwegian. Title tr.: Proposal for a cellulose factory

in Sør-Varanger.

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Notes possible use of Finnish fir in proposed factory; also Finland's export of forest products by way of Kirkenes, economic cooperation between north Finland and eastern Finmark in Norway, water power for factory use, road building, etc.

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47084. NORSK SKOGBRUK. Gode muligheter for granproduksjon i Troms; fra en utferd i Harstad distriktet. (Norsk skogbruk, Sept. 1956. årg. 2, nr. 17, p. 577–79, 4 illus.) Text in Norwegian. Title tr.: Good possibilities for spruce production in Troms; from an excursion in the Harstad district.

Account of a visit to a forest plantation, largely spruce, in Astafjord at 69° N., with trees up to 35 years old. Summer temperature, precipitation, soil character, and forest management are discussed; comparison with trees farther south is provisional as little is known yet about effects of summer sunlight, forest thinning and such factors in growth at Astafjord. New plantations in Troms, spraying of fir plantings to control birch, and viability of seed from Troms and Finnmark are also reported. The Troms Forestry Association has more than 800 members.

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47085. NORSK SKOGBRUK. Nord for polarsirkelen, litt prat om skog og natur. (Norsk skogbruk Dec. 1956. årg. 2, nr. 23/24, p. 759-61, 7 illus.) Text in Norwegian. Title tr.: North of the polar circle, a little chat about forest and nature.

Regeneration of birch in upland locations is affected by reindeer; both birch and fir are affected by location and depth to ground water. Destruction of forests in Troms and Finmark by German occupation troops is discussed. Forest conditions in several localities are reviewed. The slow development of scientific forestry in northern Norway is noted.

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47086. NORSK SKOGBRUK. Øket tempo i skogreisingen i Nordland. (Norsk skogbruk, Oct. 1956. årg. 2, nr. 20, p. 674.) Text in Norwegian. Title tr.: Increased tempo in forest growing in Nordland.

Notes four communities in which forest plantings were begun in 1956, making approx. 160,000 acres good forest land now planted. Full forestation of the area will require some 160 million trees at a cost of over seven million dollars, and thirty years' work. **Copy seen:** DA.

47087. NORSKE INSTITUTT FOR KOSMISK FYSIKK. The auroral observatory at Tromsø ( $\varphi=69^{\circ}39'.8N, \lambda=18^{\circ}56'$ . 9 E. Gr.), observations 1954. Bergen, A. S. John Grieg, 1956. 31 p. diagrs., tables (Its: Publikasjoner nr. 38.)

Hourly mean values are tabulated for each month for the magnetic elements of declination, horizontal intensity, and vertical intensity. Comparable data obtained over a brief period during the summer are given also for Bjørnøya (74.5° N. 19.2° E.). Results of the magnetic observations are summarized. Tables of ozone values are included covering nine months at Tromsø and seven months at Longyear, Vestspitsbergen (78.2° N.). Copy seen: DLC.

47088. NORSKE SKOGPLANTE-SKOLER. Planteforsyningen de naermeste år. (Norske skogplanteskoler. Årsskrift, 1952. p. 12–14, 3 tables.) Text in Norwegian. Title tr: Current plant supply.

Tree delivery 1948, 1951, 1952, and needs for 1953–57 are tabulated for each Norwegian province. Nursery production per unit area in northern Norway is slightly less than in the south. Ways to supply the needs are discussed.

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47089. NORSKE SKOGPLANTESKO-LER. Skader i skogplanteskolene i 1955. (Norske skogplanteskoler. Årsskrift, 1955, p. 13–16.) Text in Norwegian. Title tr: Damage in the forest nurseries in 1955.

Includes mention of damage from ice in Salten, and from fungus in some of the northern nurseries. Copy seen: DA.

47090. NORSKE SKOGPLANTESKO-LER. Skogplanteskoler i 1951. (Norske skogplanteskoler. Årsskrift, 1951. p. 5–9.) Text in Norwegian. Title tr: Forest nurseries in 1951.

Includes data for northern provinces of Norway in yearly report on amounts of plants and seed involved in operations of provincial forest nurseries. This account appears in each yearly report from 1951 to 1955. Copy seen: DA.

NORTH ATLANTIC REGIONAL AIR NAVIGATION MEETING, see ICAO. Ice . . . runways. 1955. No. 45701. 47091. NORTHERN AFFAIRS BUL-LETIN, v. 3, no. 1-8, Jan.-Dec., 1956. Ottawa, Dept. of Northern Affairs and National Resources, 1956- in progress.

News notes similar in range to previous years (No. 41636) but more informative.

Topics treated include:

Construction work at East Three, new site of Aklavik, Mackenzie District, during 1955-1956, with ten photographs of buildings and roads in Sept. 1956 (no. 1, p. 3-4; no. 5, p. 13; no. 8, p. 9-13);

History of Old Crow, northernmost settlement in the Yukon (no. 1, p. 809);

Housing project at Fort Franklin, a Dene (Athapaskan) Indian settlement at the western end of Great Bear Lake

(no. 2, p. 7-8);

Timber-cutting operations in Wood Buffalo Park (Alberta-Mackenzie District) supervised by Superintendent of Forestry at Fort Smith; construction of plywood-manufacturing plant at Fort Smith and expected 150 percent population increase as result (no. 5, p. 6-7);

Reindeer roundup, Dec. 1955, of the five herds in the Aklavik area, Mackenzie District; study of bone weakness in the animals is being made, forage and grazing conditions investigated (no. 1,

p. 10);

Reindeer herding in Norway, Sweden, Finland, Iceland, and Greenland, comments by B. G. Sivertz (no. 6, p. 3-4);

Economic problems of the trapping population discussed at the Jan. 1956 session of the Northwest Territories Council (no. 3, p. 5-6);

Arctic char processing at Coppermine, by D. S. Wilson, q. v. (no. 3, p. 7-9);

Fish resources and fisheries of Great Slave Lake; summer and winter fishing methods (no. 8, p. 3-5); the common or lake whitefish (no. 7, p. 19-20); the "inconnu" (Stenodus leucichthys mackenzii), fish found in Mackenzie Basin, Yukon, and Alaska (no. 5, p. 11);

Whooping cranes nest in Wood Buffalo Park: causes of their decline, conservation plans, based on talk by J. Lynch of U. S. Fish and Wildlife Service; 28 were counted in 1955-1956 (no. 6, p. 9-10);

Wood bison, its discovery, conservation in Wood Buffalo Park, the present hybrid stock resulting from interbreeding of wood and plains bison (no. 6, p. 15-16);

Caribou population decline: 60 percent in 1948-1955, attributed to wolves and unnecessary slaughter by Eskimos, is discussed by J. P. Gillese (no. 7, p. 4-6);

Wolf control program in Northwest

Territories, 1955-1956, with statistics by district (no. 6, p. 7);

Yukon Forestry Division was formed in 1943, its work covers area of 207,076 sq. mi. (no. 4, p. 10-11); forest fire statistics for Yukon, 1956 (no. 7, p. 10);

New educational program for the Northwest Territories, by J. V. Jacobson,

q. v. (no. 2, p. 11-14);

Educational facilities in Mackenzie District, 1956-1957, school construction, teachers' duties, etc. (no. 4, p. 16-18); school programs broadcast in Eskimo by Rev. F. W. Peacock, Moravian missionary (no. 4, p. 18); summer and other courses for teachers (no. 5, p. 13-14); teaching of English to Eskimos, suggestions by J. J. Bond, Northern Service Officer, Cambridge Bay (no. 7, p. 16-19);

Eskimo carvings on sale in Montreal, etc. (no. 1, p. 6); Christmas party at Frobisher Bay, 1955, account by Irene Baird (no. 1, p. 11-12); new high-vitamin biscuit prepared as dietary supplement for Eskimos (no. 4, p. 13); life of Eskimo women in Greenland, house interiors, crafts, housework, occupations open to women, by Mrs. B. G. Sivertz (no. 6,

p. 4-5);

Greenlanders' visit to Baffin Island, Aug. 1956 in the H. J. Rink and Skarven

(no. 7, p. 11-12);

Eiderdown industry for Cape Dorset (Baffin) and at Payne Bay (N. Quebec): Icelanders' down-cleaning machine demonstrated to the Eskimos (no. 8, p. 5);

1956 Eastern Arctic Patrol carried out by Canadian Government officials on the C. D. Howe, June-Sept. (no. 4, p. 6-7); Northwest Territories Council (11th)

at East Three, new site of Aklavik, Aug. 23-31, 1956 (no. 6, p. 6);

Coat of arms for the Northwest Territories and Yukon described and depicted (no. 3, p. 3-4);

Philip H. Godsell describing York Factory in 1906 (no. 8, p. 6-7);

Mining activities and prospecting in the Northwest Territories; effects on the Eskimo described by K. J. Christie, q. v. (no. 2, p. 9-10; no. 8, p. 14-17).

Biographical sketches of Dept. of Northern Affairs personnel are included in each issue of the Bulletin.

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47092. NORTHWEST TERRITORIES. COUNCIL. Tenth session, Ottawa, January 16-23, 1956. Votes and proceedings. [Ottawa, 1956] 10 p. Mimeographed.

Subjects considered, among others,

were economic prospects of the region, population distribution and effect on population of the DEW radar line construction, administration, integration of native and white population, fur trade, transport and communication, construction, public health, game laws, new townsite of Aklavik, Council mace presented by the Governor General, sale of liquor in the Aklavik area, educational facilities, sale of insurance, fire prevention.

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47093. NORTHWEST TERRITORIES. LAWS, REGULATIONS, etc. Ordinances of the Northwest Territories, Canada, 1956. Ottawa, 1956. Mimeographed. Each chapter separately paged in sess. 1; sess. 2, 34 p.

Contains text of 17 ordinances passed by the Northwest Territories Council: sess. 1, chap. 1–5, assented to Jan. 23, 1956; sess. 2, chap. 1–12, assented to Aug. 31, 1956. They deal with fire prevention, insurance sales, revised ordinances, public service expenditures, game, contracts, liquor, motor vehicles, municipal districts, area development, wages, workmen's compensation, taxes, appropriations.

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47094. NORTHWEST TERRITORIES. LAWS, REGULATIONS. etc. Revised ordinances of the Northwest Territories, 1956, being a revision of the Consolidated ordinances of the Northwest Territories, 1898, with the subsequent public general ordinances consolidated to the 1st day of August 1956. Published and proclaimed to come into operation on the 1st day of August 1956. . . . Ottawa, Queen's Printer, 1956. xi, 1018 p.

texts of 103 ordinances Contains(p. 1-892) in force. They deal with such matters as adoption, archeological sites, bills of sale, changes of name, citizenship, creditors, dental profession, elections, employment, financial agreements, fire, game, hospitals, Indians, insurance, jury, liquor, marriage, medicine, mining, police, public health, schools, scientists and explorers, tenants, vital statistics, wills, Yellowknife municipal district, property and water supply, etc. Repealed ordinances are also listed (p. 893-903) with note of chapters and whether all or part was repealed. Appended (p. 905-939) is the basic Northwest Territories Act as amended to 1955 (government, administration of justice, etc.), also the orders in council issued under it. Comprehensive index is appended (p. 940–1018).

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47095. NORTHWEST TERRITORIES. POWER COMMISSION. Annual report . . . for the fiscal year ended March 31, 1956. Ottawa, 1956. 20 p. fold. map.

Contains summary of operations 1948–1956; reports on power produced at the Snare River, Fort Smith, and Mayo River power plants; plans for new power plants at Fort Simpson, new townsite of Aklavik, and Whitehorse; legislation with regard to Aklavik project; financial conditions of existing plants with itemized statements. Previous reports were listed as No. 36498, 41638. Copy seen: DLC.

47096. NORWAY. GEOFYSISKE KOMMISJON. Geophysical research in Norway 1954–55. Bergen, John Grieg, 1956. 21 p. (*Its*: Annual report, no. 5.)

Reports on work of 15 Norwegian organizations and institutions for the period July 1, 1954 to June 30, 1955. Contents are similar to those of previous four reports (cf. No. 36500). Work in northern Norway, Svalbard, Greenland and Barents Seas was continued. Regular publications of the organizations, and individual papers (40) published during the 1954–1955 period are listed.

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47097. NORWAY. METEOROLOGISKE INSTITUTT. Årsberetning for de meteorologiske institusjoner i Norge. Oslo, 1906- in progress. Text in Norwegian. Title tr: Annual report for the meteorological institutions in Norway.

Administrative report on finances, publications, personnel, services, and work at stations, including those at Tromsø, Bjørnøya, Jan Mayen, Hopen and Vestspitsbergen, also North Atlantic weather ships. In progress since the latter 19th or early 20th century (file from 1905/06 to date at DWB), these reports indicate special activities as well as scope of meteorological and some geophysical work. Recent issues, e. g. 1954/55, pub. 1956 (71 p.), summarize the weather forecasting service, that of North Norway included, also the hunting regions of Vestisen and Østisen (west and east icepacks). File seen: DWB.

47098. NORWAY. METEOROLOGISKE INSTITUTT. Bernt Johannes Birkeland,

1879–1955. (*Its*: Årsberetning, 1954–55, *pub*. 1956, p. 1–5, port.) 31 refs. Text in

Norwegian.

Obituary of this outstanding Norwegian meteorologist. His scientific activities are reviewed, and 31 of the more important of his numerous publications are listed, including some on Svalbard, northern Norway, etc.

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47099. NORWAY. METEOROLOGISKE INSTITUTT. Karter over snøakkumulering. (Naturen, Mar. 1950. årg. 74, nr. 3, p. 76–83, text map.) Text in Norwegian. Title tr.: Maps of snow accumulation.

In cooperation with the Norwegian hydrologic survey on stream systems and electricity, the meteorological institute began to publish maps of the amount of snow as a percentage of normal accumulation at stations on the last day of each of the first four months of 1950. The maps were not to include north Norway, because of insufficient data and/or delay in their transmittal from the interior of Nordland, Troms and Finnmark.

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NORWAY. NORSK POLARINSTITUTT, see Norway. Sjøkartverket. Katalog over sjøkarter . . . 1952. No. 47100.

47100. NORWAY. SJØKARTVERKET. Katalog over sjøkarter (Chart catalogue) og farvannsbeskrivelser vedkommende den norske kyst m. v. samt arktiske sjøkarter og farvannsbeskrivelser utg. av Norsk polarinstitutt. Oslo, 1952. 14 p., maps (part fold.) Text in Norwegian and English, map titles in Norwegian. Eng. title: Chart catalog and descriptions of the Norwegian coast, published by Norway's chart service, with aretic charts and descriptions published by the Norsk Polarinstitutt.

Contains index maps and lists of maps on various seales available for individual sections of the Norwegian coast from the southwestern border of Sweden to the northwestern border of the Soviet Union; also charts from northern Norway to, and including all of Svalbard. General information: index numbers, scales, projections, timeliness and corrections, and purchase instructions introduce this catalog.

Copy seen: DLC.

47101. NORWAY. STATISTISK SENTRALBYRÅ. Norges bergverksdrift, 1866–1954. Oslo, 1874–1956 in progress. 62 nos. tables (Norges offisielle statistikk, C. nr. 12 (1866-1882); rekke 3. nr. 40, 128, 165, 231, 285, 340 (1883-1898); rekke 4, nr. 59, 113 (1899-1903); rekke 5, nr. 33, 54, 76, 111, 135, 159, 197 (1904-1911); rekke 6, nr. 2, 29, 60, 95, 138, 155 (1912-1917); rekke 7, nr. 14, 48, 70, 95, 146, 178 (1918-1924); rekke 8, nr. 3, 35, 78, 105, 137, 155, 193 (1925-1931); rekke 9, nr. 15, 42, 69, 95, 121, 147, 176 (1932-1939); rekke 10, nr. 4, 26, 49, 68, 87, 105, 130, 147, 176 (1940-1947); rekke 11, nr. 8, 55, 105, 124, 162, 197, 232 (1948– 1954)). Text in Norwegian. Summary, table of contents, text column & table headings in English. Title tr.: Norway's mining industry, 1866 -1954.

Annual publication since 1906 (except 1919-1920); prior to 1906, two-three years to an issue. Contains detailed annual statistics, until 1916 compiled from reports by government-appointed mine controllers; since 1916, based on reports from each establishment. Ore mines, pyrite mines, coal mines, and establishments engaged in metal production are covered. Also included are the annual reports prepared by the mine controllers. These deal with companies engaged in stone quarrying and nonmetallic mining as well as with the above mine categories. Mines and mining companies in North Norway are includep; also, since 1926, separate statistics on coal production in Svaibard.

File seen: DGS.

47102. NORWAY. VASSDRAGS- OG ELEKTRISITETSVESENET. Hydrografiske avdelingen. Vannstandsobservasjoner i Norge, 1912–1939, 1946–1953. Oslo, H. Aschehoug, 1913–1940, 1948– 1955. 36 v. fold. graphs, tables. Text in Norwegian. Title tr.: Water-level

observations in Norway, 1912–1939, 1946–1953.

Annual report, comprising tables of daily records for stations; high, mean, low, and average height of water for the year; duration of ice cover; and highest and lowest levels. Yearly conditions, periods of flow and high and low water in various basins are summarized. Drainage basins in northern Norway are included. Prior to 1938, the report was entitled Vandstandiagttagetser i norske vasdrag, and was issued by the Vassdragdirektør. File seen: DGS; DLC.

NOVGORODETS, IVAN, see Badigin, K. S. Po studenym morâm . . . 1956. No. 43811. NOVIKOV, A. E., see Moskva. Vsesoûznajā sel'skokhoz. vystavka. Pavil'on Leningrad i Severo-Zapadnye oblasti 1956. No. 46865.

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47103. NOVIKOV, G. A. Khishchnye mlekopitaiushchie fauny SSSR. Moskva-Leningrad, Izd-vo Akad. nauk SSSR, 293 p., 191 illus., front. Akademiía nauk SSSR. Opred. po faune SSSR, no. 62.) 16 refs. Text in Russian. Title tr.: Carnivorous mammals of the U. S. S. R. fauna.

Contains a systematic index to the order Carnivora and in the introductory part (p. 9-34), characteristics of the order, cranial structure and dental system and their age changes; data on geographic distribution, ecology and economic importance are included. Some carnivores, like wolf, are pests; some are useful as source of valuable furs and as destroyers of agricultural and forest pests. In the special part, is a table for determination (by external and cranial characteristics) of six families, 17 genera and 43 species, of which two are introduced. Some economically important species are described in detail, with data on systematics, biology, ecology, synonymy and geographic distribution. Among them are the white bear (Talassarctos maritimus), arctic fox (Alopex lagopus), fox (Vulpes vulpes), brown bear (Ursus arctos), sable (Martes zibellina) and ermine (Mustela erminea), native to tundra or forest-Indices of Russian and tundra zone. Latin names are appended.

Copy seen: DLC.

47104. NOVIKOV, L. V. O dorozhnosinopticheskoĭ sluzhbe. (Avtomobil'nye dorogi, Jan. 1956. god 19, no. 1 (159), 22 - 23)Refs. Text in Russian. Title tr.: Synoptic service for roads.

Describes weather stations along roads to study and control transportation. Synoptic data from these observation posts are used in warning of change in weather and road conditions: temperature changes, deformation of the road surface (cracks, heavings, washout, etc.), snow and ice cover, drifts, protection, variation in coefficient of cohesion, ground moisture, depth of freezing, deformation in mountain road, etc. Copy seen: DLC.

47105. NOVIKOV, VALER'IAN DMI-TRIEVICH. Iz istorii osvoenifa Sovetskol Moskva, Gospolitizdat, 1956. 214 p. 22 illus., 7 maps incl. 2 fold. Text in Russian. Title tr.: From the history of the conquest of the Soviet Arctic.

Contains chiefly historical data exploration of the region with rather general notes on the industrialization of the area, and improvement of the life of the native population under the Soviet regime. Introduction outlining major expeditions and studies of pre-revolutionary times, is followed by account of early Soviet activities (1918 to 1928): the organization of so-called "Kara operations" (1920–28) to establish a sea route via the Yenisey to central Siberia; the establishment of the Floating Marine Institute in 1921, training of scientific personnel, and its expeditions, at first on the Malygin and later on the Perset (1921–27); establishment of Northern Scientific-Industrial Expedition in 1920 and the study and development of natural resources of the Kola Peninsula, Novaya Zemlya, White and Barents Seas; educational and cultural activities among native tribes. The second period, from the beginning of the first five-year plan in 1928 until 1937, was devoted to exploration and development of the Northern Sea Route by the expeditions of the Sibiriakov in 1932, the Cheliuskin in 1933 and Litke in 1934; successful navigation in 1935 by the transport vessels Iskra, Vantsetti, Stalingrad, and Anadyr' established the possibility of cargo transportation from Leningrad to Vladivostok via the shorter, northern sea route. Polar stations were set up in Franz Joseph Land, Severnaya Zemlya (expedition of G. A. Ushakov in 1930), Novaya Zemlya, etc.; expeditions sent to the northern Siberian coast and tundras, etc. Introduction of aerial reconnaissance in the Arctic is noted; industrial developments are outlined in Kola Peninsula (apatite, minerals, fisheries), in the Pechora region, Vorkuta, Usa (coal, oil), and at Igarka on the Yenisey River (lumber). The most important feature of the third period, since 1937, has been the exploration and study of the Arctic Basin initiated by the aerial expedition of Otto Shmidt (pilot Vodop'anov) from Rudolph Island to the North Pole in 1937, and establishment of drifting station North Pole-1. Complex study of the central Arctic, interrupted by the world war, was continued by the drifting stations North Pole-2, 3, 4 and 5 during Their scientific achievements 1950-56.are noted. Expeditionary routes throughout are shown on maps. Copy seen: DLC. NOVIKOVA, A. S., see Offman, P. E., and A. S. Novikova. O paleozofskom vulkanizme . . . 1950. No. 47146.

NOVILLE AND ASSOCIATES. See U. S. Army Transportation Corps . . . Operation Icecap, 1954,

47106. NOVOSEL'SKIĬ, G. Pervenets "Bol'shogo Enisetâ." (Ogonëk, Apr. 1956. god 34, no. 16, p. 3) Text in Russian. *Title tr.:* The Great Yenisey's first.

Note on the "cascade" of the hydroelectric plants planned on the Yenisey River, the first at Krasnoyarsk, with its hundred-meter dam. *Copy seen:* DLC.

47107. NOYES, JOHN RUTHERFORD,
d. 1956. The Alaska National Guard.
(Military engineer, Mar.-Apr. 1956. v.

48, no. 322, p. 96-98, illus.)

Discusses the organization and functions of the Alaska National Guard: its two Eskimo Scout Battalions, the 207th and 208th Separate Infantry Battalions and the 144th Fighter-Interceptor Squadron of the Air National Guard. The Eskimo Scouts man the entire northern and western coasts of Alaska. Eskimo village National Guard detachment has a non-commissioned officer in charge, who is a head man in the village. The infantry units which are composed of whites and Indians are located at Juneau, Ketchikan, Sitka, Anchorage, Seward, Fairbanks, Kodiak and others. The Air National Guard is located at Anchorage. Copy seen: DLC.

47108. NUNGESSER, WILLIAM CHARLES, 1923 - . Renal responses to cold exposure of large v. small dogs. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 138–39.)

Account of a study of large dogs exposed to near zero temperature. The results are in several respects different from those obtained earlier with small dogs kept under similar conditions.

Copy seen: DLC.

47109. NUORTEVA, MATTI. Havaintoja eräiden hyönteisten esiintymisestä pakkasessa. (Suomen hyönteistieteellinen aikakauskirja, 1951. v. 17, no. 3, p. 117.) Text in Finnish. Summary in English. *Title tr.:* Observations on some winter insects.

Contains notes on Chionea crassipes and Helomyza nigrinervis, observed moving on snow at Sodankylä in Kemi Lappmark (67°25′ N. 26°35′ E.) during the period Jan. 26-Mar. 8, 1951, when the temperature was sometimes  $-6.8^{\circ}$  C. to  $-12.7^{\circ}$  C. Copy seen: DA.

47110. NUORTEVA, MATTI. Kirjanpainaja (*Ips typographus* L.) kuusirajan pohjoispuolelta. (Suomen hyönteistieteellinen aikakauskirja, 1955. v. 21, no. 4, p. 195-96, text map) 5 refs. Text in Finnish. Summary in German. *Title* tr.: *Ips topographus* L. (Col., Scolytidae) found beyond the northern fir limit in Finland.

Records find of this wood-borer, together with I. acuminata, under the bark of a single fir tree between Kaamanen and Syysjärvi in the Inari region of Finnish Lapland, 60 miles north of the nearest fir forest. Copy seen: DA.

47111. NUORTEVA, MATTI. Über den Fichtenstamm-Bastkäfer, Hylurgops palliatus, Gyll. und seine Insektenfeinde. Helsinki, 1956. 118 p. illus., tables. (Acta entomologica fennica, no. 13) About 170 refs. Text in German. Summary in Finnish. Title tr.: The pine bast-beetle Hylurgops palliatus, Gyll. and its insect enemies.

Results of a study conducted during 1953–55 in southern Finland, and (in 1954) in Lapland. Occurrence and geographic distribution, biology (food, breeding, phenology, etc.) are reported; population movements are discussed. Enemies and parasites of this species were also studied and found to be polyphagus, i. e. preying on other species too.

Copy seen: DLC.

NURKLIK, A., see Henry, T. J. G., and others. Vector mean winds . . . rawin stations in Canada. 1954. No. 45525.

47112. NURNBERGER, JOHN IGNATIUS, 1916—, and M. W. GORDON. Effects of brief stress on the rhibonucleic acids and the labile nitrogen pool of brain and liver in the rat. (Progress in neurobiology, 1; neurochemistry, 1956. v. 1, p. 122–42, illus. tables.) 35 refs.

Contains a study of the magnitude and significance of the labile nitrogen pool of brain in animals briefly exposed to cold  $(-5^{\circ}\pm 2.5^{\circ}$  C. for 1 hr.). Fed, fasted or bilaterally adrenalectomized animals were used, and simultaneous changes in the liver of the same animals traced, for comparison. It is indicated that adrenocortical mechanisms make the pool easier available as a source of stop-gap energy.

Copy seen: DNLM.

47113. NUSSER, FRANZ. Problems of sea ice research. (Journal of glaciology, Mar. 1956. v. 2, no. 19, p. 619–23.) 6 refs.

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"Sea ice research has reached a critical point in its development. In place of a geographical statistical trend, there is now a geophysical approach. Whereas the main problem has been the explanation of the phenomena of sea ice in space and time, more and more attention is being devoted to the connection between the state of the ice and the changing conditions in the water and the air."—Author's abstract.

Mention is made of German and Soviet ice reconnaissance flights and cruises during World War II; the need for working up of observational material from ice reconnaissance and lack of specialists required; lack of a uniform terminology for sea ice; new ice foreasting methods.

\*Copy seen: DGS.

47114. NUTRITION REVIEWS. Adrenal steroid output by hypothermic dogs. (Nutrition reviews, Apr. 1956. v. 14, no. 4, p. 117–19.)

Several recent (1954-55) investigations on the functional responses of the adrenal cortex to stress are reviewed and discussed. Hypothermia, alone or combined with hemorrhagic shock, is dealt with.

\*\*Copy seen: DNLM.\*\*

47115. NUTT, DAVID C. Blue Dolphin Labrador Expeditions, oceanographic station data report, part 1. [Hanover, N. H., Dartmouth College], Feb. 1956: 61 p. text maps, tables. Typescript. 7 refs.

Contains data obtained from stations in the Strait of Belle Isle, St. Lewis Inlet, Kaipokok Inlet, the Nain, Hebron, and Seven Islands Bay areas during 1949-1954. Results from the Hamilton Inlet-Lake Melville estuary are in preparation as pt. 2. For each station (cf. maps), geographic coordinates, water depth, weather conditions, date and time of observations are noted. Temperature, salinity, density, oxygen and phosphate content are given for depths, between 0-75 and 150 m. Copy seen: CaMAI.

47116. NUTT, DAVID C., and L. K. COACHMAN. The oceanography of Hebron Fjord, Labrador. (Canada. Fisheries Research Board. Journal, 1956. v. 13, no. 5, p. 709–758, illus., tables, map.) 16 refs.

A study of the oceanographic regime

and physical environment of the Fjord (58°10′ N. 63° W.) based on operations during 1949, 1952 and 1954 from the research vessel Blue Dolphin. An introductory part deals with bathymetry, climate, fresh-water contribution and water movements. This is followed by accounts on temperature and salinity; O<sub>2</sub> and phosphate contents; temperaturesalinity relationships and long-term trends; ice conditions; water exchange; vertical mixing of water; general and theoretical aspects. Station data, summarized in tabular form, are appended. Copy seen: DI.

NUTT, DAVID C., see also Scholander, P. F., and others. Gases in icebergs. 1956. No. 47843.

47117. NUTTALL, C. J., Jr., and J. P. FINELLI. Vehicles in snow; a critical review of the state of the art. A Corps of Engineers Research and Development report prepared for Office of the Chief of Engineers and Waterways Experiment Station, Vicksburg, Miss. Aug. 1955. 71 p. tables. (U. S. Army. Corps of Engineers. Trafficability of Snow, Report no. 1. Technical memorandum no. 3–414.) 206 refs.

The design and operation of snow vehicles as well as methods of predicting vehicular performance in snow are critically reviewed. Physical and mechanical properties of a snow cover with reference to trafficability are discussed. The status of vehicle-snow research and existing self-propelled snow vehicles are examined in detail. Characteristics of various snow vehicles successful in themselves and/or representing potentially useful concepts are tabulated. Sleds and unpowered trailers, and mobility testing of vehicles in snow are briefly outlined. Specific recommendations for future research and a selected bibliography are included. Copy seen: AMAU.

47118. NYBERG, ALF. Temperature measurements in an air layer very close to a snow surface. Stockholm, 1939. p. 234–75, diagrs., illus., tables. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden. Serien uppsatser, no. 27.) 27 refs.

Temperatures at intervals up to a height of 25 mm. and at 1400 mm. above the snow were measured with a platinum resistance thermometer. The measurements were made during 1936–1937 at the Meteorological Institute of Upsala

University. The temperature was found to vary exponentially with height under stable conditions. Temperature fluctuations calculated for different heights indicate that turbulence occurs over snow at a height of less than 1 mm. The methods of measurement are discussed, and all data are tabulated. *Copy seen:* DWB.

NYE, J. F., see Robin, G. de Q., and others. The future . . . glaciology . . . 1956. No. 47616.

47119. O., B. Myskoxe till Finland.
(Finlands natur, 1953. årg 12, p. 31.)
Text in Swedish. Title tr.: The muskox to Finland.

Muskoxen were reported in Vittangi and Øvre Soppero, near the Finnish region of Karesuando, according to the Swedish press, Jan. 26, 1953. If the animal does not wander into Finland, proposal is made that it be introduced there. Resemblance of its native habitat to Finnish Lapland and its value as a commercial animal are stressed.

Copy seen: DLC.

47120. OBERHOLSER, HARRY CHURCH, 1870-. A new hermit thrush from Canada. (Biological Society of Washington. Proceedings, Sept. 12, 1956. v. 69, p. 69.)

Contains a description of Hylocichla guttata euboria n. subsp. breeding in the Yukon Territory. Copy seen: DA.

47121. OBERHOLSER, H A R R Y CHURCH, 1870— . Recent additions to the list of North American birds. (Washington Academy of Sciences. Journal, Feb. 19, 1917. v. 7, no. 4, p. 120.)

From 1910 to 1916, 125 species and subspecies were added to the list of birds known from North America. Among them: Larus thayeri from Ellesmere Land; Totanus totanus from Greenland; Calliope camtschulkensis and Hypocentor rusticus from Kiska, and six species from the Pribilofs.

Copy seen: DLC.

47122. O'BRIEN, JOHN PATRICK, 1910—, and W. L. GOJMERAC. Radiosensitivity of larval and adult amphibia in relation to temperature during and subsequent to irradiation. (Society for Experimental Biology and Medicine, Proceedings, May 1956. v. 92, no. 1, p. 13–16, illus.) 6 refs.

In larval frogs, lowered body temperature (3° C.) only delayed the lethal effects of radiation and mortality was essentially the same upon return to room tempera-

ture as in control. In salamander larvae under similar conditions, there was less damage to internal organs and less abnormal responses. Adult salamanders showed a significantly lower mortality after irradiation at a low body temperature.

\*\*Copy seen: DLC.\*\*

47123. OBRUCHEV, SERGEĬ VLADI-MIROVICH, 1891 – Editor. Spravochnik puteshestvennika i kraeveda; sostavlen gruppoĭ avtorov pod redaktsieĭ S. V. Obrucheva. Moskva, Gos. izd-vo geogr. lit-ry, 1949–1950. 2 v.: 808 p., illus., figs., diagrs., fold. map (in pocket); v. 2: 684 p. illus., figs., diagrs., plates (3 col. in pocket), tables, fold. map (in pocket). Over 1000 refs. Text in Russian. Title tr.: Reference book for travelers and regional explorers; written by a group of authors, edited by S. V. Obruchev.

A collection of 53 papers prepared by 35 authors according to plan, with the Soviet explorer S. V. Obruchev as editor and principal contributor. They are intended to furnish members of scientific (land) expeditions, and others with essential information and guidance in travel and investigation. The first volume deals with the organization and techniques of travel, the second with principles of field work in the various Most of the papers listed sciences. below, with title translated, are relevant for expeditions into any parts of the U. S. S. R., a few (\*) which refer specifically to arctic and subarctic areas are described in this Bibliography under their authors' names.

Vol. 1: Preparation of the expedition, by S. V. Obruchev (p. 3-70) deals with general problems of organization; tents, sleeping and other equipment, clothing, footwear.

Camp and travel practice, by S. V. Obruchev (p. 71–111) covers packing, transportation, summer and winter camps, hygiene, insect control, schedule of movements and work.

Food and its preparation, by S. V. Obruchev (p. 112-51): dietary needs, food supplies, their kind, quantity, etc., preservation and transport, vitamin content and caloric value; cooking utensils, fire building, etc.

Hunting and fishing are discussed by Obruchev (p. 152–75) as means of supplementing rations and improving the diet; weapons and implements are indicated, methods of catching game and fish, etc., are explained.

\*Edible plants (p. 176–203) by V. L. NEKRASOVA, q. v.

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Summer transportation by S. V. Obruchev (p. 204–263): travel by foot, riding; also draft and pack horses and their use, various other pack animals, including dogs and reindeer; wheeled transport; saddles, harness, wagons; packs, knots, etc. Notes are included on transportation in Yakutia.

\*Winter transportation (p. 264–99) by S. V. OBRUCHEV, q. v.

Water transportation also by Obruchev (p. 300-348): types of boats, including baldarka, their construction, equipment and repair; sails; navigation of sandbars and rapids; coastal and lake boating, etc. Scattered remarks on such transportation in northern Siberia are included.

Mechanical transportation is treated by  $\widehat{\Lambda}$ . I. BronshteIn (p. 349–80), who describes types, selection and use of motor vehicles, including tracked and amphibious vehicles, boats and gliders.

\*First aid in accidents and emergency sickness (p. 381–415) is presented by A. M. ABEZGAUZ, q. v.

\*Care and treatment of expeditionary animals (p. 416-45) are explained by V. F. ADAMANIS, q. v.

Photography and moving pictures by I. I. Gomel'skil (p. 446-524) deals in detail with the apparatus, equipment and field laboratory; offers rules for photographic work generally, and especially for that on various objects under observation.

\*Radio (p. 525–50) is treated by V. N. IVANOV, q. v.

The simplest means of orientation in space and time are explained by Obruchev (p. 551–79); practical advice on making astronomical and geodetic observations and on determination without, or with home-made, instruments; signaling.

Maps and mapping by K. A. Salishchev and IU. A. Meshcherîakov (p. 580–683) presents the main map series of the U. S. S. R.; their scales, mathematical, geodetic and geographic elements, coverage, etc.; map reading and field use, including materials of aerial photography; mapping with simple instruments.

Barometric levelling by IU. A. Meshcherfakov (p. 684–710) outlines principles, instrumentation, methods of work, use of tables, etc.

In a final chapter, "Technical advice and recipes" (p. 711-22), Obruchev gives miscellaneous expeditionary "house-keeping" supplies: putties and seals, writing materials, adhesives, metals, glass, dishes, etc. Appended (p. 723–98) are geodetie, astronomical and mathematical tables.

Vol. 2 comprises papers by specialists on principles and methods of field investigations, viz.:

Complex physiographic exploration by V. P. Lidov and N. A. Solnfsev (p. 9–16): organization, preparation and methods of field work.

\*Study of the weathering process (p. 17-27) by N. I. NIKOLAEV, q. v.

Study of effects of wind and investigation of sands and loess (p. 28–52) by B. A. Fedorovich.

Study of effects of ground water, by N. I. Nikolaev (p. 53-70) deals with springs and their water, karst phenomena, land slides.

Study of effects of running water (p. 71–92) by N. I. Nikolaev covers erosion phenomena, river valleys, terraces and deltas.

Hydrological investigation of rivers, by L. K. Davydov (p. 93–107) outlines instruments, purposes, methods.

Study of mineral springs, by N. I. Tolstikhin (p. 108-114) explains the geomorphic and hydrological investigation of springs and determination of the physical and chemical properties of their waters.

Complex study of lakes, by N. I. Semenovich (p. 115–36) states purposes, instruments, methods.

Complex study of marshes, by I. D. Bogdanovskafa-Gienef (p. 137–49) deals with the problems and methods of the hydrological, geomorphic and botanical investigations of various types of marshes.

Study of sea coasts (p. 150-64) by V. P. Zenkovich, describes instruments, aspects and methods of study, main types of sea coasts, etc.

Study of present-day glaciers, by S. V. Kalesnik (p. 165–70) indicates the main features, origin, changes and types of glaciers in the U. S. S. R.

Study of the remains of ancient glaciation, by S. V. Obruchev (p. 171–92) covers the general features, moraines, fluvio-glacial deposits, valley forms, types of glaciation in mountains and plains, etc.

Study of the snow cover (p. 193-99) is outlined by G. D. Rikhter and L. D. Dolgushin.

\*Study of permafrost as a geographical factor (p. 200–224) is treated by S. P. SUSLOV, q. v.

Geological field studies are outlined by

Obruchev in papers (four) on: relief and deposits of areas adjacent to glaciers (p. 225–37) dealing with solifluction processes, stone rivers, structural soils, frost fissures, etc.; on volcano and earthquake observations (p. 238–50) dealing with exploration of extinct Cenozoic volcanoes in the U. S. S. R. and with non-instrumental observation of earthquakes and tremors; on geologic surveying (p. 251–337): instruments, methods, technique in sediment and rock studies, with tabulation of geological history; and finally on collecting fossil remains of fauna and flora (p. 338–50).

Search for useful minerals is outlined by M. I. Itsikson (p. 351-79): the principal minerals, prospecting methods.

etc.

Complex study of the recent earth crust movements is outlined by N. I.

Nikolaev (p. 380-87).

Geomorphic investigations, by I. S. Shchukin (p. 388-403) deals with instruments and methods of exploration of valleys and mountains.

Practical applications of geomorphology are presented by T. V. Zvonkova (p. 404–413): in prospecting for useful minerals, railroad construction, and in agriculture.

Soil study (p. 414-30) is outlined by

B. F. Petrov.

Field meteorological observations and weather forecasting based on local indicators (p. 431-62) are discussed by L. A. Vitel's.

\*Studies of flora and vegetation (p. 462-96) are treated by V. B. SOCHAVA,

q. v

\*Zoological investigations (p. 497–535) are treated by A. A. NASIMOVICH; animal tracks and methods of tracking terrestrial vertebrates (p. 536–52), by A. N. FORMOZOV; and effects of animals' activity on formation of the earth surface and soils (p. 553–56), by A. N. FORMOZOV; q. q. v.

Phenological observations are dealt with by N. N. Galakhov (p. 557-78): meteorological and hydrological phenomena in relation to flora and fauna.

Archeological investigations (p. 579–92) by L. Â. Krizhevskaîa, deals with methodics of field work in the U. S. S. R., including stone age finds on the Lena River, White Sea coast and Kola Peninsula.

\*Ethnographic observations (p. 593-612) are treated by N. A. SHMIDT; and anthropological observations (p.

613–24) by G. F. DEBETS, q. q. v. Investigations in economic geography (p. 625–35) and human geography (p. 636–47) are outlined by  $\overline{\mathbb{U}}$ . G. Saushkin.

Study of geographic names is reviewed by E. M. Murzaev (p. 648–53); and their\* transcription is treated (p. 654–63) by

S. V. OBRUCHEV, q. v.

Appended are hunting and other regulations of interest to field investigators; also a list of state preserves, including Kandalakshskiy, Kondo-Sosvinskiy, Kronotskiy, Laplandskiy and Sem' Ostrovov, with notes on their administration, etc.

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47124. OBRUCHEV, SERGEĬ VLADI-MIROVICH, 1891–. Transkriptsifa geograficheskikh nazvanit. (*In his:* Spravochnik puteshestvennika, t. 2, 1950, p. 654–63, table.) Text in Russian. Title tr.: Transcription of geographic names.

Expounds rules for transcribing Russian and transliterating non-Russian names. Correction of old names of features and introduction of new ones are explained. Several of the names discussed are of arctic areas.

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47125. OBRUCHEV, SERGEĬ VLADI-MIROVICH, 1891—. Zimnit transport. (In his: Spravochnik puteshestvennika, t. 1, 1949, p. 264–99, illus.) 38 refs. Text in Russian. Title tr.: Winter transportation.

Discusses problems of expeditionary travel in winter: skis and their use, including that with sails, also description of the Chukchi and Indian skis i. e. snowshoes (p. 270–75). Reindeer- and dog driving (p. 283–96) are described, harness, hitches, sleds, etc. The winter condition of such instruments as watches, chronometers, photographic apparatus, odometers, etc., is discussed, and their maintenance at low temperatures.

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47126. OBRUCHEV, VLADIMIR AF-ANAS'EVICH, 1863–1956. Osnovy geologii; populfarnoe izlozhenie. Moskva. Izd-vo Akademii nauk SSSR, 1956. 360 p. illus., port., map, diagr. 56 refs. Text in Russian. *Title tr.:* Fundamentals of geology; a popular exposition.

Physical, or dynamic, geology is outlined with major references to the U. S. R. and specific examples from other countries. Geological forces creating and transforming the earth crust are discussed. European and Siberian glaciers

are described with illus. and maps of the maximum extent of historic glaciations, including the Taymyr, Verkhoyansk, Chukotski, Kamchatka. Identification of the various glacial ages and hypotheses for the cause of ice ages are discussed. Regions included are Svalbard, Franz Joseph Land, Novaya Zemlya, Severnaya Zemlya, Ostrov Bennet and the Canadian Arctic archipelago (p. 125–60). Volcanic formations and activities in Kamchatka are mentioned with illus.

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OBRUCHEV, VLADIMIR AFANAS'-EVICH, 1863–1956, see also Naginskii, N. A. Vzgliady . . . na istoriiù oledeneniia . . . 1953. No. 46926.

47127. OBRUCHEV, VLADIMIR VLADIMIROVICH. Sorok let raboty Akademii nauk po izueheniû proizvoditel'nykh sil strany. (Akademiâ nauk SSSR. Vestnik, July 1956. god 26, no. 7, p. 24–31, maps.) Text in Russian. *Title tr.:* Forty years of the Academy of Sciences' study of the productive resources of the country.

Brief survey of activities in all areas of the U. S. S. R. since the organization of the Commission for study of productive resources of the country (Komissia po izuchenia estestvennykh proizvoditel'nykh sil strany, KEPS) in 1915. Kola Peninsula and Yakut A. S. S. R. are mentioned.

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47128. O'BRYAN, JOSEPH E. Extreme climatic performance requirements. Wright-Patterson Air Force Base, Ohio, Dec. 29, 1953. 10 l. tables. (U. S. Air Force. Air Research and Development Command. Wright Air Development Center. Technical note WCSPE-53-17.)

Recommendations are given for reducing the time required for starting and take-off of reciprocating- and jet-engine aircraft at temperatures as low as -65° F. No major problems are anticipated in this area for jet aircraft. Suitable low temperature oil systems, hot fuel priming, vacuum pump dilution, and ground operable cabin heat systems are recommended.

\*\*Copy seen: AMAU.\*\*

47129. OBSERVATORY. Glaciology, the flow of glaciers. (Observatory, Apr. 1950. v. 70, no. 855, p. 63-69.) 3 refs.

Reports a discussion by the Royal Astronomical and British Glaciological Societies held on Jan 7, 1950, on old and new theories of glacier motion. The new

theories considered include the rotational slipping hypothesis advanced by W. V. Lewis, and that of E. Orowan and J. F. Nye based on the concept of ice as an ideally plastic substance. The results of observations in various countries relating to glacier flow are summarized. Evidence was found in a natural tunnel on the edge of the Greenland icecap of local extrusion flow of ice under pressure, the crystal size diminishing with distance from the rock wall and showing a clear boundary between extruded ice and normal ice.—
From SIPRE. Copy seen: DN-RL.

47130. OBUT, A. M. Klass Graptolithina-graptolity. (In: Leningrad. Vsesoûznyĭ geologicheskiĭ institut. Polevoĭ atlas ordovikskoĭ i siluriiskoĭ fauny Sibirskoĭ platformy, 1955. p. 136–39, illus.) Text in Russian. Title tr.: Class Graptolithina: graptolites.

Contains information on the morphology and morphometry, followed by descriptions of seven forms, three of them new. Notes on occurrence on the Siberian plateau are included.

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ODEBLAD, E., see Westin, B., and others. Na<sup>24</sup> clearance . . . hypo- and hyperthermic rats. 1956. No. 48921.

others. On . . . clearance of radiobromide . . . 1956. No. 48922.

47131. ODHNER, NILS HJALMAR, 1884- Die Mollusken der lappländischen Hochgebirge. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 4, Zoologie, Lfg. 2, pub. 1908. p. 133–68, plates 2–3.) 45 refs. Text in German. Title tr.: Molluscs of the high mountains of Lapland.

Contains a systematic annotated list of 20 recent and fossil molluses from the Sarek Mts. and 19 from the Torneträsk region. Pisidium tornense is described as new. A tabulated review of aquatic and terrestrial molluses of both regions is given. A check list of the species and anatomical data on Pisidium obtusale and related species are appended.

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47132. ODISHAW, HUGH. International Geophysical Year symbol. (Science, Apr. 27, 1956. v. 123, no. 3200, p. 722, illus.)

Two symbols adopted by the Special Committee for the IGY, are illustrated and explained: one for use on publications, the other, similar but with inscriptions, for instruments, equipment, etc. \*Copy seen: DLC.

47133. O'DONOGHUE, CHARLES H. A list of the Nudibranchiate Mollusca recorded from the Pacific coast of North America, with notes on their distribution. (Royal Canadian Institute. Transactions, May 1926. v. 15, pt. 2, no. 34, p. 199–247.) 67 refs.

Ninety-nine species are listed, 33 of them recorded in Alaska, Aleutian waters and the Gulf of Alaska (summary table, p. 241). **Copy seen:** DLC.

47134. O'DONOGHUE, CHARLES H. Nudibranchiate Mollusca from the Vancouver Island region. (Royal Canadian Institute. Transactions, Feb. 1921. v. 13, pt. 1, no. 29, p. 147–209, plates 7–11.) 13 refs.

Contains list of 26 species, eight described as new, with synonyms, descriptions, dimensions and data on morphology, color, habitat and distribution. A least seven species are recorded also in Bering Sea, Aleutian waters and Gulf of Alaska.

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47135. ÖDMAN, OLOF HERMAN RANFAST, 1906—. Norrbotten läns urberg i kort sammandrag. (Geologiska föreningen, Stockholm. Förhandlingar, 1953. bd. 75, häfte 1, no. 472, p. 49–71, table.) 17 refs. Text in Swedish. Summary in English. *Title tr.:* Precambrian geology of Norrbotten province, in brief summary.

Regional mapping of Sweden's northernmost province begun in 1946, is to be completed about 1956. Principal rocks of the two main Precambrian cycles, Sveco-Fennic and Karelidic, are described. Severe denudation of the older was followed by sedimentation, intense folding, and by migmatization of the older rocks and intrusions of deep-seated rocks which are divided in two series. Local variations are distinguished. Several localities in the arctic section of the province are noted.

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47136. ÖDMAN, OLOF HERMAN RANFAST, 1906— . and others. Den svensk-finska geologiska exkursionen i Tornedalen sommaren 1948. (Geologiska föreningen, Stockholm. Förhandlingar, 1949. bd. 71, häfte 1, no. 456, p. 113–26, illus., text maps.) 9 refs. Text in Swedish. Summary in English. Other

authors: M. Härme, A. Mikkola, and A. Simonen. *Title tr.*: The Swedish-Finnish geological excursion in the Torne valley in the summer of 1948.

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To coordinate results of geological investigations along the Finnish-Swedish border, members (six) of the two countries' geological surveys undertook a joint six-day excursion from Haparanda-Torneå northward. In Finland, they traveled the route Tornio-Ylitornio-Rovaniemi-Kemi-Oulu and environs, and in Sweden the Haparanda-Kalix-Karungi route with a side excursion to Balingsberget. Consideration of previous studies and discussions of the geological nature of outcrops at points along the way comprise the body of this report.

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47137. ÖDMARK, PELLE. Väster och söder om Virijaure. (Till fjälls. Svenska fjällklubbens årsbok 1955. årg. 27, Spring 1956, p. 56–59, map, illus.) Text in Swedish *Title tr:* To the west and south of Virihaure.

Describes a walking-tour made by the author and two companions in the mountains west and south of this lake (approx. 67°20′ N. 17° E.) in north Sweden. Botanical observations were made, and errors in existing maps noted.

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47138. ÖRTENGREN, JAN HENRIK. Möte med Sarek. (På skidor. Föreningen för skidlöpningens och friluftslivets främjande i Sverige. Årsbok 1956, p. 111–22, illus., map.) Text in Swedish. Title tr: Meeting Sarek.

Contains short notes on a two-week walking tour made by the author and two companions in the Sarek Mts. (approx. 67°30′ N. 17°40′ E., north Sweden) in the summer of 1954.

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47139. OESAU, WANDA. Hamburg unternahm 6,000 Arktisfahrten auf Walfang und Robbenschlag in den Jahren 1643–1861. (Polarforschung, 1954, pub. 1956. Bd. 3, Heft 1–2, Jahrg. 24, p. 298.) Text in German. Title tr: Hamburg undertook 6,000 arctic voyages for whaling and sealing during the years 1643–1861.

Contains a selective review, No. 47140. Copy seen: DLC.

**47140. OESAU, WANDA**. Hamburgs Grönlandfahrt auf Walfischfang und Robbenschlag vom 17.–19. Jahrhundert.

Glückstadt - Hamburg, J. J. Augustin [1955]. 316 p. illus., 71 plates incl. maps, facsims, graph, ports. Text in German. Title tr: Hamburg's Greenland voyages for whaling and sealing, 17-19th century.

A comprehensive monograph on a period of most successful sea voyages of Hamburg, written by a member of an old family of whalers and a lifelong student of German whaling. Successive chapters deal with: the hunting grounds. their description and value: Spitsbergen, Jan Mayen, arctic areas and Davis Strait; and with voyages to these grounds, 1643-1861; ship-owners and their business; ships and their histories, commanders and crews, the lot of the whalers' wives. Relics, equipment and buildings of the period are traced, also exhibits, songs of whalers, etc. Appended are lists of archival and other sources, indexes of geographic names, ship commanders (818) and owners (332), of ships (565), etc., together with chronological analysis of voyages. Contemporary maps, documents, illus. of vessels, etc., are reproduced. This extensive study and presentation of source materials in handsome format is similar to the writer's work on Schleswig-Holstein's voyages (No. 36564). Copy seen: NhDStef.

ØSTBY, H. Småhvalfangsten 47141. (Norsk hvalfangst-tidende, May 1955. Årg. 45, nr. 5, p. 241–49, map, diagr.) Text in Norwegian and 1956. tables, diagr.) English. Title tr: The 1955 smallwhale catch.

Contains data for Norwegian and Spitsbergen waters and the Barents Sea; tables show number of vessels taking part, whales caught (4,491), and geographical distribution of catches; yield of meat, blubber and bone (given) is valued at 9,446,479 Norw. kr.

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47142. ÖSTMAN, CARL JOHANN. Isförhållandena vid Sveriges kuster under vintrarna 1870/71-1934/35. Stockholm, 1937. 63 p. charts, maps, 2 fold. plates, (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, bd. 6, no. 6.) 18 refs. Text in Swedish. Title tr.: Ice conditions along the coasts of Sweden, during the winters 1870/71-1934/35.

Data based on 13,000 ice reports from 232 coastal stations are presented. Included are mean values of ice conditions, ice formation and break-up, duration and thickness of the ice covers, fast ice, drift ice. A chronological survey is given of the ice conditions in the major ports and harbors. Copy seen: DWB.

47143. ÖSTMAN, CARL JOHANN. Isvintern 1940-41, en jämförelse med 1939-40. Stockholm, 1941. 10 p. diagrs., maps, tables. (Sweden. Meteorologiska och hydrologiska institutet. Medde-Serien uppsatser, no. 38.) 8 ext in Swedish. Summary in landen. Text in Swedish. refs. English. Title tr.: The ice winter 1940-41, in comparison with 1939-40.

Ice and temperature data for the Swedish coastal and Baltic Sea area are discussed. The 1940-41 winter, although very cold, was not as cold as the previous one. However, the ice period was longer during 1940-41 except for the Skagerak, the Kattegat, and the southern Baltic. All waters were free of ice on June 6. Details on ice conditions at selected

stations are tabulated.

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47144. ÖSTMAN, CARL JOHANN. Recherches sur les grands vents près de la côte Suédoise du golfe de Botnie. Stockholm, 1922. 2 p. l., 51 p. diagrs., maps, (Sweden. Meteorologiska och tables. hydrologiska institutet. Meddelanden, bd. 1, no. 4.) 35 refs. Text in French. Title tr.: Research on heavy winds near the Swedish coast of the Gulf of Bothnia.

A general analysis is given of storms in this area during the period 1907-1921, with winds of Beaufort 7 (over 32 mph.) The frequency, character, and above. and over-all synoptic situation is included in the study. The number of hours with winds at this and selected higher velocities are tabulated for each of 11 stations. Similar data are graphed showing the seasonal variations in the storms.

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ØSTVEDT, O. J. 47145. Catfish (Anarrhichas minor) tagged in the Barents (International Council for the Exploration of the Sea. Annales biologiques, 1954, pub. 1956. v. 11, p. 29, map.)

Account of tagging activities conducted during 1953-54 in connection with growth and age studies. The experiments proved earlier assumptions, that this fish migrates from the eastern Barents to the banks off Finmark during spring and summer and back again in the fall and winter.

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ÖZER, F., see Terzioğiu, M., and F. Özer. Blood heparin . . . coagulation . . . hypothermia. 1956. No. 48364.

47146. OFFMAN, P. E., and A. S. NOVIKOVA. Opaleozoiskom vulkanizme na Srednem Timane. (Moskovskoe obshchestvo ispytatelel prirody. Bûlleten', 1950. god 121. Otdel geologicheskil, t. 25, vyp. 5, p. 49–59, illus., diagrs.) 10 refs. Text in Russian. Title tr.: Paleozoic volcanism on central Timan.

Contains new data on volcanic activities in the central Timan Ridge (64° N. 52° E.) during the middle-upper Devonian. Locational and genetic relations of volcanic rocks in respect to the Timan's ruptures are described. Interrelations between basic rocks (which filled crevices in the Givetian sandstones), the overlying rocks, and rocks forming interlayer deposits are thoroughly discussed. Magmatic activity in the Paleozoic era occurred at the end of Givetian and at beginning of Frasnian stage (lower level of upper Devonian system). The width of volcanic crevices varies (up to 100 m.) and the length to many kilometers. penetration of diabase into deep ruptures is connected with non-uniform lowering of the Pechora syncline, resulting in displacement of the horizontal Paleozoic layers of the Timan structure.

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47147. OFFMAN, P. E. Osnovnye cherty struktury Srednego Timana. (Moskovskoe obshchestvo ispytatelel prirody. Bûlleten', 1945. god 116. Otdel geologicheskii. t. 20, no. 5–6, p. 55–73, text map, table, diagrs.) 43 refs. Text in Russian. Summary in English. Title tr.: Basic features of central Timan structure.

Contains review of early investigations supplemented by recent data on the structure of the Timan Ridge (64° N. 52° E.). Main attention is given to study of the morphology and genesis of the structures, particularly to the metamorphic Precambrian foundation of the Ridge and the thinner more disintegrated Devonian and Carboniferous formations on top. The structure has block form. The sloping layers confined by flexures, indicate that the Timan structure was formed as result of vertical movements. The small domes located close to the flexures often contain gas and oil.

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47148. OGDEN, EUGENE CECIL, 1905. The broad-leaved species of Potamogeton of North America north of Mexico. (Rhodors, Mar.-May 1943. v. 45, no. 531-533, p. 57-105, 119-63, 171-214, plates 746-48, text maps 1-17.) Pub. also as: Contrib. from the Gray Herbarium of Harvard University, no. 147.

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Contains diagnostic characters and data on variation, hybridism and stemanatomy characters of Potamogeton (pondweed); a scheme of the classification of North American forms, and keys to the broad-leaved species, subsections, and varieties. Species (13), varieties (7) and hybrids (21) are described with critical notes, lists of specimens and ranges (text maps). A list of numbered exsiccatae and an index of the botanical names are appended. At least eight species and varieties are recorded in all sections of Alaska, northern Canada and southern Greenland. Copy seen: DA.

OGDEN, ISAAC, 1739-1824, see Dillon, R. H. Peter Pond and . . . route to Cook's Inlet. 1951. No. 44627.

47149. OGNEVA, T. A. Nekotorye osobennosti teplovogo balansa de@atel'-nol poverkhnosti; po materialam nabl@denil v Koltushakh. Leningrad, Gidrometeorologicheskoe izd-vo, 1955. 120 p. (Glavna@ geofizicheska@ observatori@ im. A. I. Voelkova.) Illus., graphs, tables. 114 refs. Text in Russian. Title tr.: Specific features in heat balance on an active surface; on observations at Koltushi.

Theory of heat balance and practical methods of computing it are described on the basis of daily and seasonal observations on temperature gradient, humidity and wind velocity carried out for five years. The heat balance is discussed in respect to the variations of its components at different periods, such as radiant energy of the sun, heat of evaporation, ground heat and that of turbulent air flow. The results and conclusions are applicable in scientific work and in solution of practical problems in agriculture and construction under winter or permafrost conditions. Copy seen: DLC.

47150. OGONËK. ÎAkutskiî pisatel'. (Ogonëk, Sept. 1956. god 34, no. 40, p. 30, port.) Text in Russian. Title tr.: A Yakut author.

Note, with portrait, on the Yakut

writer, Dmitril Kononovich Sivesev (Suorun Omolloon), occasioned by his fiftieth birthday. *Copy seen:* DLC.

47151. OGONEK. Mezhdunarodnoe sotrudnichestvo polfarnikov. (Ogonek, June 1956. god 34, no. 25, p. 5.) Text in Russian. Title tr.: International collaboration of polar workers.

Interview with V. F. Burkhanov, chief of the Main Administration of the Northern Sea Route, who headed the Soviet delegation to the Stockholm Conference for the IGY. 1957-58. Explorations planned by various nations in the Arctic and visit of the Soviet delegation to the Scott Polar Institute in Great Britain are noted; also plans for collaboration between United States and Soviet drifting stations in the Arctic Basin.

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47152. OGONËK. Na shkhune "Khibiny." (Ogonëk, Aug. 1956. god 34, no. 33, p. 24, col. plate.) Text in Russian. Title tr.: On the schooner Khibiny. Notes trip of the Soviet painter, Serafim Frolov, to Jan Mayen fishing grounds in 1956; illus. of his seascape, etc.

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47153. OINONEN, EINO A. Kallioiden muurahaisista ja niiden osuudesta kallioiden metsittymiseen Etelä-Suomessa. Helsinki, 1956. 212 p. illus., tables, maps. (Acta entomologica fennica, v. 12.) About 100 refs. Text in Finnish. Summary in English, p. 179–212. Title tr.: The ants of the rocks and their contribution to the afforestation of rocks in southern Finland.

Author, having observed many vigorously growing pine seedlings on earth mounds built by ants on rocks, studied the ants and ant ecology in southern Finland and, for comparison, those of similar locations in Lapland. In addition, tree stumps were studied in Lapland to elucidate the ant's choice of nests. Further investigations included determinations of the proportion of trees originating from ant hills on rocks; differences between these trees and those in other places; reasons for the formation of seedlings in ant hills and for their good growth; etc.

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**47154.** OĬUNSKIĬ, PLATON, 1873– **1939.** Poėty narodov Sibiri. (Sibirskie ogni, Nov.-Dec. 1956, no. 6, p. 40-45.) Text in Russian. Title tr.: Siberian poets.

Includes a biographical sketch and three poems of the Yakut poet Platon Ofunskii.

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OKAZAKI, KIN-ICHI, see Yoshii, N., and others. Effects of hypothermia . . . electrical activity . . . brain . . . 1955. No. 49025.

47155. OKHOTA I OKHOTNICH'E KHOZĪAĬSTVO. Khronika. (Okhota i okhotnich'e khozīalstvo, Jan. 1956, no. 1, p. 63.) Text in Russian. Title tr.: News notes.

Includes notes on socialist competition of hunters in Yakut A. S. S. R.; five-year-plan for sealing (annual catch of 1,500) at the kolkhoz Enmitachino in the Chauna District of Chukotka.

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47156. OKHOTA I OKHOTNICH'E KHOZÎAÏSTVO. Okhotniki peredovogo kolkhoza. (Okhota i okhotnich'e khozîaïstvo, Oct. 1956, no. 10, p. 61, ports.) Text in Russian. Title tr.: Hunters of the leading collective farm.

Notes successes in hunting and furfarming achieved by the collective farm at the village of Andryushkino (approx. 69°05' N. 149°30' E.) in the Nizhne-Kolymsk District in Yakutia; illus. of the two most successful Yakut hunters of this farm.

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47157. OKHOTSIMSKAIA, M. V. Sezonnoe raspredelenie korotkoperiodicheskikh kolebanii elektromagnitnogo polia zemli. (Akademiia nauk SSSR. Izvestifa, serifa geofizicheskafa, Aug. 1956, no. 8, p. 999–1000, illus., graphs.) 2 refs. Text in Russian. Translated by E. R. Hope, for Canadian Defence Research Board, Directorate of Scientific Information Service, Sept. 1956, no. T228R. (3 p. illus., graphs.) Copy at CaMAI. Title tr.: Seasonal distribution of shortperiod oscillations of the terrestrial electro-magnetic field.

Two typical microvariations in the terrestrial electromagnetic field among large bands of frequencies differing in amplitudes and shapes are described with recorded oscillations. One represents continuous oscillation during many hours with 10-40 sec. periodic changes; the other, one or a few short trains with damping oscillation. Both records were made at the Alma-Ata

station, Sept. 1953-Aug. 1954 and were statistically processed to frequency diagrams of annual variation. Maximum frequency is associated with vernal and autumnal equinox, and minimum with winter or summer solstice. Both frequencies vary with zonality of sun-spot distribution and mutual location of solar and terrestrial equatorial planes. In an equinoctial period, the earth's surface is subjected to action of the corpuscular stream, emitted by the sun-spots, but in a solstitial period, much less so, since the terrestrial and solar equatorial planes are under 23°37' angle to each other. Copy seen: DLC.

47158. OKKO, VEIKKO OMA TOIVO, 1912- . Glacial drift in Iceland, its origin and morphology. Helsinki, 1955. 133 p. 53 illus. incl. 32 on 16 plates, 3 text maps, diagrs., crosssections, graphs, tables. (Finland. Geologinen Tutkimuslaitos. Bulletin, no.

170.)Approx. 150 refs.

Includes (p. 112-22) a comparison of the present temperate glaciers of Iceland with the sub-polar and high polar glaciers of Jan Mayen, Vestpitsbergen and Nordaustlandet, Baffin Island (Barnes icecap), Greenland (inland ice and outlet glaciers, especially Eqe on the west coast), and the southern coast of Alaska. Size, type (based on morphological characteristies and climate), thickness, and regime are compared; also glacial deposits. Copy seen: DGS.

47159. OKLADNIKOV. ALEKSEĬ PAVLOVICH, 1908- . Drevnee nase-Sibiri i ego kul'tura. (In: Akademifa nauk SSSR. Institut etnografii. Narody Sibiri. 1956. p. 21-107, illus., fold. maps.) 25 refs. Text in Title tr.: The ancient popula-Russian. tion of Siberia and its culture.

Gives a chronological outline of the stone and metal age cultures, including: the early Magdalenian finds at Buret' (Angara basin) and Mal'ta (Belaya River); the late paleolithic sites on the Yenisey, Angara and Lena Rivers as far north as Olekminsk and Markhachan (61° N. 121°-123° E.); the neolithic cultures of the Angara, Lena and Baykal regions (Isakov: approx. 4000 B. C.; Serov: 4th-3rd millenium B. C.; Kitoy: 3rd-early 2nd millenium B. C.; and Glazkov: 1800-1300 marking the beginning of metal). Outline continues with the late neolithic cultures on the middle and lower Lena and Ob' Rivers and in central Chukotka (2nd-1st millenium B. C.); and the bronze age cultures of the Yenisev River area (Afanas'ev: 3rd-2nd millenium B. C.; Andronov: 1500-1200 B. C.; and Karasuk: 1300-800 B. C.). The stone, bone and metal artifacts, ceramics, ornaments, etc., are described and the paleolithic and neolithic sites shown on separate maps. The culture, customs, trades, clothing and housing of prehistoric men in Siberia are discussed, also their race affiliation (Mongoloid), inter-relationship, and their northern expansion. A puzzling occurrence of paleolithic and neolithic implements within the same culture horizons in the Lena, Angara and Yenisey sites is noted, and various proposed explanations (stagnation, foreign influence, poor quality of stone) are rejected. Author suggests a locally accelerated evolution, conditioned by the specific needs of the native economy and by the progressive technique of a late-paleolithic Mongolian-Siberian culture. Copy seen: DLC.

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47160. OKLADNIKOV, ALEKSEĬ PAV-LOVICH, 1908- . Lenskie drevnosti, vyp. 2. Otchet ob arkheologicheskikh issledovaniakh na nizhnel Lene ot Zhiganska do Kumakh-Surta v 1942-1943 gg. Yakutsk, 1946. 187 p. illus., maps, plans, diagrs., tables. Approx. 45 refs. (Akademifa nauk SSSR. Institut istorii material'noï kul'tury. Nauchno-issledovateľskiľ institut ſazyka, literatury i istorii ÎAASSR.) Text in Russian. Summary in English. Title tr.: The Lena antiquities, part 2. Report on archeological investigations along the lower Lena from Zhigansk to Kumakh-Surt in 1942-1943.

Contains results of the Lena historicalarcheological expedition of the Institute of Material Culture of the Academy of Sciences U. S. S. R. and the Scientificresearch Institute of Language, Literature and History of Yakut A. S. S. R. (pt. 1, 3 of these results were listed as No. 24814, 31086.) The geography, geology, geomorphology, flora, soil formation (peat), etc. of the Lena valley, 600 km. from Zhigansk (66°45′ N. 123°20′ E.) to the delta, are discussed. The burials, sunken earth-houses, temporary and permanent camps, workshops, hearths, ceramics, and stone, bronze and iron artifacts of the forest and forest-tundra zone are described in detail; the finds are tabulated. The excavated sites are divided roughly into two groups: the first, centering around Lake Uolba, near Zhigansk, belonged to semi-settled fishermen, while the second, near Bulun (70°50' N. 127°12' E.) is typified by camp sites of nomad hunters. Though both culture centers were inhabited from the stone through the iron age, the majority of the excavated sites (80 of 137), including those dealt with in pt. 1 (No. 24814) and enumerated in pt. 2, p. 132-36, have neolithic implements or artifacts bearing traces of having been made with stone tools. The earliest neolithic finds in the Uolba Lake region, are similar to, though younger than those of Yuzhnyy Oleniy Ostrov in Lake Onega, Karelia: the prone ochre-covered skeleton oriented toward the NE, the shape and flaking technique of the tanged arrowheads, lamellar blades, etc. While artifacts of black flint-slate predominate in the lower layers, implements made of various materials including (p. 142) petrified wood were found in the upper neolithic layers. The large number of nuclei, flint flakes, and half-finished artifacts in the Bulun camp area, particularly near Chukurovka (i. e. Chekurovka? approx. 71°10′ N. 127° E.), and Siktyakh (69°55′ N. 125°15′ E.) point to their use as workshops by the nomad hunters. Knife blades (including the so-called man's knife also found in North America, p. 145), spear and arrow heads, potsherds, bone fragments, etc., were found. A perforated plug (vtulka, pl. xv) made of reindeer horn, probably used to hold the blade of an axe or adze, is compared to similar Eskimo artifacts found in northeast Asia and polar regions of America (p. 90-91). Of particular interest are the bronze finds made throughout the valley as far north as Chukurovka and often found together with stone artifacts of very archaic type. The discovery of earthenware pots and spoons used in copper and bronze smelting prove the existence of local bronze production. Though no attempts at exact dating are made, comparisons are drawn throughout with finds on the Middle Lena and Angara Rivers, Lake Baykal and Onega, etc., and the similarity between the northern Lena bronze stage and the Glaskov culture of the Baykal region (1700-1000 B. C.) is noted. Iron artifacts manufactured from local ore deposits were found in the uppermost layers and show a slow transition from late bronze to early iron age. Traces of a later stage of the early iron age characterized by an almost total absence of stone implements

were also discovered in the lower Lena region. The latest finds belong to the so-called "small house" culture which existed up to the 16th-17th-century A. D. The more important finds (including a bronze age burial with skeleton and tools in their original positions), plans of two excavation sites, soil profiles, and sketch maps of the lower Lena valley and the Lake Uolba complex, are appended (p. 159-82); also (p. 183-86) a summary in Yakut and in English. Copy seen: PU.

47161. OKLADNIKOV, ALEKSEĬ PAVLOVICH, 1908— Vklad sovetskol arkheologii v izuchenie proshlogo severnykh narodov. (Leningrad Universitet. Uchenye zapiski, no. 115, 1950. Fakul'tet narodov Severa, vyp, 1, p. 22–37.) 4 refs. Text in Russian. Title tr.: Contributions of Soviet archeology to the study of northern peoples.

Russian archeological and ethnological investigations of the 17–19th centuries are outlined; the work and conclusions of Soviet scientists are reviewed on prehistoric distribution, ethnic affiliation, cultural connections and artistic development of peoples inhabiting the northern part of Europe and Asia during the stone, bronze, and early iron ages. Eskimo culture of the Bering Strait and its study by Hrdlička, Collins, Bogoraz and Rudenko are discussed. Paper delivered to the Northern Conference at Leningrad University, Dec. 10–14, 1947.

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OKLADNIKOV, ALEKSEĬ PAVLOVICH, 1908 - . see also Belov, M. I. Arkticheskoe moreplavanie . . . 1956. No. 43944.

OKLADNIKOV, ALEKSEĬ PAVLOVICH, 1908– , see also Chard, C. S. The oldest sites . . . Siberia. 1956. No. 44314.

OKLADNIKOV, ALEKSEĬ PAVLOVICH, 1908 – , see also Grave, N A. Ob arkheologicheskof datirovke . . . gidrolakkolitov . . . 1956. No. 45209.

OKLADNIKOV, ALEKSEĬ PAVLOVICH, 1908–, see also Levin, M. G. Antropologicheskii . . . Verkholenskogo . . . 1956. No. 46329.

OKLADNIKOV, ALEKSEĬ PAVLOVICH, 1908—, see also Lisi tsyna, N. K. Arkheologicheskie issledovanitā... 1953 g. 1956. No. 46390. OKLADNIKOV, ALEKSEĬ PAVLOVICH, 1908–, see also Lisitsyna, N. K. Arkheologicheskie issledovanifa . . . 1954 g. 1956. No. 46391.

OKUDZHAVA, A. M., see Akademifa nauk SSSR. Institut geografii. Sneg i talye vody. 1956. No. 43523.

47162. OKULITCH, VLADIMIR JOSEPH, 1906—. The Lower Cambrian of western Canada and Alaska. (In: International Geological Congress. 20th, Mexico City, 1956. El sistema Cambrico, su paleogeografía y el problem de su base: symposium. Tomo 2, p. 701–734, 3 text

maps, tables.) 74 refs.

Cambrian formations of western Mackenzie District, Yukon, and easternmost Alaska outcrop within the central and eastern sections of the northern Cordilleran region. The central system includes the Yukon Plateau, and the Ogilvie, Selwyn, and Pelly Mts.; the eastern system includes the Richardson, Mackenzie, Franklin, and Rocky Mts. The region was occupied by the sea for long periods during Late Proterozoic to Silurian time. As information is scarce on the outcrops, various parts of the Cambrian have not been differentiated in many areas: it is treated as a whole for Yukon, Alaska, and Northwest Territories in turn (p. 723-28), and outcrops of Lower, Middle and Upper Cambrian noted where age is definitely known. Copy seen: DGS.

47163. OKUNEV, A. Guvana. (Okhota i okhotnich'e khozíaĭstvo, Mar. 1956, no. 3, p. 48–51, illus.) Text in Russian. Title tr.: Guvana.

Story of successful walrus hunting by Guvana, a Chukchi girl, teacher in the school of the kolkhoz "Put' Lenina" in Chukotka District. Copy seen: DLC.

47164. OKUNEV, P. P. Geograficheskoe rasprostranenie i zony vrednosti sibirskogo shelkoprfada. (Geograficheskoe obshehestvo SSSR. Geograficheskif sbornik, 1955, no. 5, Geograficheskie voprosy lesnogo khozíálstva, p. 210–222, illus., tables, map.) 21 refs. Text in Russian. Title tr.: Geographical distribution and depredation zones of the Siberian eggar.

The spread of this moth, Dendrolimus sibiricus, extends from northern Japan to the northern Urals, and almost to the Arctic Circle in eastern Siberia. Its depredations especially in pine are described. Epidemic outbreaks of the pest have reached the Podkamennaya Tun-

guska, Vilyuy and Aldan River basin.
Climatic conditions of areas affected are
summarized (table p. 220-21) by districts.

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OLCHOWIK-KOLASIŃSKA, JULIA, see Dylikowa, A., and J. Olchowik-Kolasińska. Procesy i struktury w strefie . . . zmarzliny. 1955. No. 44699.

47165. OLDEBERG, ANDREAS. Bågfyndet från Jokkmokk. läns hembygdsförening. Årsbok 1956, p. 47–54, illus.) 35 refs. Text in Swedish. *Title tr.*: The bow finds from Jokkmokk.

Describes a bow found in 1955 in Jokkmokk (66° 36′ N. 19°51′ E.) parish, north Sweden and compares it with other similar finds. It is considered to date from the iron age or later and to belong to the Lappish culture. Whether the bow may be composite is discussed.

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47166. OLDENDOW, KNUD 1892—. Grønlaendervennen: Hinrich Rink, videnskabsmand, skribent og grønlands-administrator. København, 1955. 94 p. illus, ports. (Grønlandske selskab. Skrifter 18.) 13 refs. Text in Danish. Title tr.: The Greenlanders' friend: Hinrich Rink, scientist, writer and Greenland administrator.

Biography of Hinrich Johannes Rink (1819-1893), based in part on newly found material. After studies in the natural sciences, Rink went to Greenland in 1848 to carry out mineralogical and geological investigations, one result of which was his Om isens udbredning og bevægelse over Nordgrønlands fastland (On the extension and movement of the ice across the North Greenland mainland), published in 1853. Rink was factor in Godthåb and inspector in southern Greenland 1855-1868. His work towards local government and in founding the printing works at Godthåb is stressed, and his numerous publications are treated During 1871-1882, he was in detail. director of the Greenland trade and administration, then resigned due to differences with authorities.

Appended (p. 45-93) is Rink's report of an inspection trip to Greenland in 1872. Copy seen: CaMAI.

47167. OLDEVIG, HUGO. Sveriges amphipoder. Göteborg, 1933. 282 p. illus. (Göteborgs kungl. vetenskapsoch vitterhets-samhälle. Handlingar, 5 följden, ser. B., bd. 3. no. 4.) Meddelanden från Göteborgs musei zoologiska avdelning, 62. 39 refs. Text in Swedish. *Title tr.:* Amphipods of Sweden.

Systematic annoted list of several hundred amphipods (many illus.), with synonyms, data on localities and collectors in Sweden, also general distribution of species. Among those listed, 148 species, representative of 3 orders, 34 families, are found throughout the Arctic. Depths of occurrence vary from fresh and brackish shallows to 1,000 m. in the ocean.

Copy seen: DLC.

47168. OLIN, T. V. Suomen vesistöen alueet ja jarvet. Helsinki, 1936. 68 p., tables, fold. map. (Finland. Hydrografiska byrån, Meddelanden, no. 7.) Text in Finnish, Swedish, and German. *Title tr.:* Finland's water area and its lakes.

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Brief introduction is followed by tabular data covering all drainage basins over 200 km.2: size of main and tributary areas, percentage of area in lakes, area of lakes, number, and names of lakes over 1 km.2 Summary tables (2) relate the general survey maps of the country to latitude and regions covered in this study. Base map is in scale 1:1 million for southern and 1:2 million for northern Finland.

Copy seen: DGS.

47169. OLIVER, DONALD RAYMOND. Interim report to the Arctic Institute of North America on the limnological investigation of Nettilling Lake, Baffin Island, 1956; with additional notes on the birds, mammals, insects and plants. [Montreal, 1956.] 9 p. 2 text maps, 3 graphs. Mimeographed.

Course of the expedition and field work in the area 66°30′ N. 70°50′ W. by the author and J. A. Thomson, May 10–Sept. 16, is recounted. Ice thickness measurements, observations of water temperature and oxygen content are presented; fish plankton and bottom fauna taken are described; qualitative collecting was carried out in streams and ponds near edge of lake. Mammals and birds were noted, and approx. 300 insect specimens collected including one order (Coleoptera) and several families new to Baffin. Fifty plants were collected.

\*\*Copy seen: CaMAI.\*\*

47170. OLIVER, DONALD RAYMOND. Limnological investigations in northern Quebec. (Arctic, 1955, pub. 1956. v.8, no. 4, p. 261.) Fresh-water investigations were made in the Lac Aigneau District, Koksoak River basin, about 85 mi. southwest of Ft. Chimo, by the writer and G. Power. The latter studied life history and physiology of the salmonoid fishes (brook trout, land-locked salmon, arctic char). The writer made soundings in the lake, took temperature, oxygen, and pH determinations, sampled plankton and bottom fauna, and made overnight net sets with gill nets. Copy seen: DLC.

47171. OLIVER, THOMAS A., 1924—. Geology of the Counsell Lake and Wilmot Lake areas, Granville Lake division, Manitoba. Winnipeg, Queen's Printer, 1952. 28 p. 6 illus., 2 fold. maps (30 x 42 in.), table. (Manitoba. Dept. of Mines and Natural Resources. Mines Branch. Publication 50–9.) 3 refs.

Maps (scale 1 in: ½ mi.) cover the 56°30'-45' N. 101°00'-30' Counsell Lake is about 12 mi. south of Lynn Lake mining district. Field work was carried out in summers 1949 and 1950. Topography, drainage, and surconditions are described. solidated rocks are Precambrian. The Archean Wasekwan series of interbedded volcanics, pyroclastics, and sediments, locally highly metamorphosed by later intrusions, is overlain by the Sickle series of clastic sediments. A group of metamorphic rocks in the Wilmot Lake area, termed Kisseynew-type gneiss, is apparently derived from metamorphosed Sickle sediments. Intrusive rocks ranging from gabbro to granite also occur. Structural geology is briefly described. No abundance of glacial drift, muskeg, and water hinders prospecting.

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47172. OLIVEREAU, MADELEINE. Hormone thyréotrope et température chez la truite arc-en-ciel, Salmo gairdnerii L., et l'anguille, Anguilla anguilla, L. (Archives d'anatomie microscopique, 1955. t. 44, no. 3, p. 236-64, illus., table.) Approx. 75 refs. Text in French. Title tr: Thyrotropic hormone and temperature in the rainbow trout (Salmo gairdnerii L.) and the eel (Anguilla anguilla L.).

Injection of thyrotropic hormone at low environmental temperature (7°-10° C.) in the winter caused only a small rise of the thyroid epithelium in normal and hypophysectomized fishes; resorption of colloid and binding of I<sup>131</sup> increased little or not at all. At 20° C. in the winter, all

these activities increased, following identical treatment. Copy seen: DNLM.

47173. OL'KHOVSKAÑA, L. N. Opyt razvedeniña norok na Kraĭnem Severe. (Karakulevodstvo i zverovodstvo, Mar.– Apr. 1956. god 9, no. 2, p. 56.) Text in Russian. *Title tr:* Experiment in rear-

ing mink in the far North.

A description of the mink farm attached to the fishing kolkhoz "Put' Stalina" in the Shuryshkarsk section of the Yamalo-Nenets national district on the lower Ob' River. The farm was started in 1951 with 50 animals brought from Tobol'sk. Data on growth of the enterprise, food (small fish, etc.), income and other aspects are presented.

Copy seen: DLC.

47174. OLSEN, INGVARD. Danske orlogsskibes inspektionstjeneste ved Grønland i forrige århundrede. (Grønland, Feb. 1956, nr. 2, p. 66–77, illus.) Text in Danish. *Title tr.:* Patrol by Danish warships off Greenland in the

last century.

Deals with enforcement of the exclusion of foreign vessels, mostly American, from Greenland ports. Six voyages are recounted in detail (the \$\textit{\textit{pren}} nin 1859, Fylla 1884 and 1886, Diana 1887, Fylla 1899 i. e. 1889, and Ingolf in 1895) with data on leaders, routes and results. Several American ships were warned off and their stores confiscated or burned. Some scientific work was carried out on these expeditions. The patrols were effective in checking the destructive influence of foreign fishermen on native population, and the Danes in Greenland were given encouragement and support.

\*\*Copy seen: DLC.\*\*

47175. OLSEN, INGVARD. Lars og Christian Dalagers indsats på Grønland. (Atuagagdliutit: Grønlandsposten, Oct. 18, 1956. Ukiut 96-iat, nr. 20, p. 12.) Text in Danish. *Title tr.:* Lars and Christian Dalager's work in Greenland.

Contains biographical notes on the brothers Dalager, Lars (1722–1772) and Christopher Carl (1726–1799): also on the latter's three sons, all active in trade and administration in Greenland. To Lars was largely due the survival of Frederikshåb; he did valuable work at Godthåb, but had to leave Greenland in 1767 because of controversies with the Greenland mission, and afterwards served with the General Trading Company in Norwegian Finmark. He wrote Grøn-

landske relationer (No. 3565). His brother's activities led to founding of Ritenbenk, Umanak, and Upernavik; he started the whaling on Arveprindsens Ejland.

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47176. OLSEN, INGVARD. Marinetogter til Vestgrønland i det tyvende århundrede. (Grønland, Oct. 1956, nr. 10, p. 380–88, illus.) Text in Danish. Title tr.: Naval expeditions to West Greenland in the twentieth century.

Describes Danish missions in 1912 and 1914 to warn off foreign fishing and whaling ships, and to impose the Danish regulations on them. In 1920 naval vessels carried mail and passengers during a seamen's strike, and in 1921 took the King and Queen of Denmark on a visit to Greenland.

Copy seen: DLC.

47177. OLSEN, ØRJAN. Til Jeniseis kilder; Den norske Sibirie-ekspeditions reise 1914. Kristiania, J. W. Cappelen, 1915. 299 p., 126 illus. on plates, 2 fold. maps. Text in Norwegian. Title tr.: To the sources of the Yenisey; the Norwegian expedition to Siberia, 1914. Narrative, by the leader, of four

Narrathe, by the leader, of four Norwegian scientists' expedition via the trans-Siberian railway to Krasnoyarsk, to the headwaters of the Yenisey River in the Minusinsk region, for study of archeological remains of former "tschudi" inhabitants, to determine possible origin of Lapps and related people. Includes description of relict tundra landscape, climate, flora, and fauna in Sayan Mt. region, skulls and other remains from bronze age, transitional, and iron age burial places (p. 33–68), also numerous references to faunal and floral similarities between this region and Scandinavia.

\*\*Copy seen: DLC.\*\*

47178. OLSEN, STEINAR. Saithe, Norwegian stock; marking experiments. (International Council for the Exploration of the Sea. Annales biologiques, 1954, pub. 1956. v. 11, p. 104–105, table,

Account of experiments with fish released near Nordkap. Practically all recoveries up to seven months after tagging were from the Norwegian coast, suggesting that the fish were on the way to, or on the spawning grounds.

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47179. OLSON, SIGURD T. Distribution of some big game animals in Southeast Alaska with particular reference to the Sitka blacktail deer. (In: Alaskan Science Conference . . . 1953. Proceed-

ings, pub. 1956, p. 182-86.)

Area inhabited by this deer, also that of mountain goat, bear, and wolf are described. Topography, temperatures, precipitation, plant cover, etc., and their interactions are discussed as factors in the animal's distribution.

Copy seen: DGS.

47180. OLSSON, OLOV. Påsk i Äpar 1956. (Till fjälls 1956. Årg. 28, p. 59–61, illus.) Text in Swedish. *Title tr.*:

Easter at Äpar 1956.

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Describes first ascent, by the author and three companions, of a peak in the Äpar mountains in the Sarek region (67°27′ N. 17°40′ E.) of north Sweden; peak was subsequently named Triangeltoppen.

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47181. OMANG, SIMEN OSCAR FREDRIK, 1868- . Cerinthoidea, et nytt element i den norske Hieracium flora. (Blyttia, 1949. bd. 7, nr. 1, p. 8–12, illus.) 10 refs. Text in Norwegian. Title tr.: Cerinthoidea, a new element in the Norwegian Hieracium flora.

Discussion of the Cerinthoidea group and its migrations includes reference to identification of H. praefoliatum Om. on Brønnøy and Lurøy in Nordland.

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47182. OMURA, HIDEO, and T. KAWAKAMI. Japanese whale marking in the North Pacific. (Norsk hvalfangst-tidende, Oct. 1956. årg. 45, nr. 10, p. 555-63, illus., map, tables, diagr.) Text in Norwegian and English.

Japanese whale marking in the Pacific includes an area in the North and in Bering Sea, where such work was carried on during 1953–1955, mostly on fin whales: 679 were marked and 19 recovered. The marks used are described in detail, and information is given on rate of recapture for the different species, on the time elapsed between marking and recovery, on migration, growth, etc. See also Nos. 47051, 45855.

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47183. OMURA, HIDEO. Whales in the northern part of the North Pacific. (Norsk hvalfangst-tidende, June, July 1955. årg. 44, nr. 6, p. 323–38+; nr. 7, p. 395–403+, maps, tables, diagrs.) Text in Norwegian and English. 12 refs.

Contains a survey of whaling with eatch composition tabulated (blue, fin, humpback, sei, sperm, other) in the various areas at different times. Distribution, pelagic whaling are reviewed. Japanese biological research is outlined, with tabular data of sex ratio, immature and mature animals in each body length group; eatch composition from view-point of maturity, blood groups, size distribution and frequency of corpora lutea, etc. The whale marking program is noted, and some comments on whale stocks are included.

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47184. O'NEILL, JOHN JOHNSTON, 1886—, and H. C. GUNNING. Platinum and allied metal deposits of Canada. Ottawa, King's Printer, 1934. 165 p. illus., 5 text maps, cross-sections, 37 tables. (Canada. Geological Survey. Economic geology series, no. 13.) 138 refs.

Includes (p. 108-112) notes on deposits in several Yukon streams; platinum and palladium in sulfides of Rankin Inlet region, Keewatin District; report of platinum from Strathcona Sound, Admiralty Inlet, Baffin Island. Also notes platinum occurrences on Ivalo River, northern Finland; Lake Imandra (Kol'skiy Poluostrov) and Noril'sk regions, U. S. S. R.; Seward Peninsula, Goodnews Bay, Kodiak Island, and Prince of Wales Island, Alaska.

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ONENKO, SULUNGO, see Avrorin, V. O chem rasskazyvaet dissertawifa. 1956. No. 43785.

47185. ONISHCHIK, L. Bol'she vnimaniâ zimnel kladke. (Arkhitektura i stroitel'stvo Moskvy. Nov., Dec. 1956. god 5, no. 11, p. 17–21; no. 12, p. 17–22, 8 tables, 5 diagr., 7 graphs.) Text in Russian. *Title tr.:* More attention to

winter masonry.

Progress in brick construction during winter and summer seasons is described on the basis of observation of actual construction, coordinated experiments and laboratory analyses. In the first part (no. 11) the widely adopted "freezing method" is discussed: construction of brick walls with slightly heated cement mortar, which freezes in a few hours and remains frozen during construction until the first thaw, when final hardening takes place. Various details of construction and damage from sudden thawing of the frozen mortar in the overstrained brick structure are analyzed, with suggestions for prevention. Regular check is required on stresses developed in the lower part of the wall from rapid construction of the upper structure, and from variation in air temperatures and in degree of hardening of the mortar. Comparative data are tabulated and graphically presented. In the sequel (no. 12), a modified "semifreezing method" is explained as better suited to rapid construction of multistory buildings: the stories below actual construction are artificially heated above freezing temperature to speed the hardening process (especially in the inner part of the walls) before the load of the upper structure is appreciably increased. Frost penetration in the wall and stress variations are regularly checked in removable brick and mortar samples. Jan.-May data are charted (no. 12, p. 19) with the five-day average air temperatures. structive loads and stresses are tabulated for walls and columns of different sizes and types of structure. Average reduction of strength of masonry due to freezing varies with temperature: from 100 percent at 0° C. to 53.6 percent at -30° C., therefore the safety factor should be increased in designs for winter construction. Suggestions for successful winter construction are offered; pre-fabricated brick wall blocks made in heated or frozen conditions; masonry with fast-hardening mortar; and use of anti-freezing additives (NaCl and CaCl2) in the mortar.

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47186. ÔNO, TAKETOSHI. An electromagnetic method of measuring the variation of specific gravity of liquids with temperatures, by use of a float containing a permanent magnet. (Teion-kagaku, Low temperature science, Sapporo, 1954, ser. A, no. 13, p. 1–10, illus., diagr.) Text in Japanese. Summary in English.

The variation of specific gravity is analytically and experimentally correlated with change of magnetic field and temperature of liquid. Method may conveniently be applied for accurate measurement of density of supercooled liquids.

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47187. OOSTEROM, M. G. Some notes on the Lille Kufjord layered gabbro, Seiland, Finnmark, northern Norway. (Norway. Norges geologiske undersøkelse, 1956. nr. 195, Årbok 1955, p. 73–87, illus., text map, sections, tables.) 12 refs. Text in English. Summary in Norwegian.

In summer 1953, investigations were made of a layered complex of gabbroic composition with intercalated peridotite bands on the island of Seiland (70°25' N. 23°15' E.) by a Norwegian Geological Survey expedition led by T. F. W. Barth (cf. No. 33466). The complex is bounded on the west by garnet gneisses (whose foliation has the same orientation as the layering in the basic rocks) and on the northeast by basic granulites. Unlike other known layered complexes, which contain ultrabasic rocks at the base and less mafic rocks at the top, here ultrabasic and basic rock types are interlayered. Layering disappears gradually in the southern part of the occurrence. Rock components of the complex, ore mineralization, and chemical analyses of trace elements are discussed. No economic concentrations of ore minerals were found. Copy seen: DGS.

OPHEIM, MAGNE, see Nordström, F. De fennoskandiska dagfjärilarnas utbredning . . . 1955. No. 47073.

OPPEGÅRD, S., see Løchstøer, J. Den norske leidangen. 1961. No. 46420.

47188. OPPENOORTH, W. F. F. Influence of light on sporulation of brewing yeast. (Nature, London, Nov. 3, 1956. v. 178, no. 4540, p. 992-93, table.)

Various strains were studied: some were indifferent to light, some showed increased and some reduced sporulation under its influence. Conditions resemble those in higher plants which also exhibit various responses to light. Possible explanations of behavior of yeast are proposed. Copy seen: DNLM.

OPSAHL, BIRGER, see Flovik, K., and B. Opsahl. Forsøk . . . nepe. 1953. No. 44920.

47189. ORANZHIREEVA, A. M. Obzor raboty Kol'skol kompleksnol ekspedifaii Akademii nauk SSSR. (In: Khibinskie apatity, 1933. t. 6, p. 264–68.) Text in Russian. Title tr.: Review of the work of the Kola Complex Expedition of the Academy of Sciences of U. S. S. R.

Organization of this expedition and its investigations in 1932–33 of the productive resources are reviewed, with emphasis on practical problems connected with apatites, nephelines and rare earths of the Khibiny. Participation of local stations (geological, petrographic, geochemical, botanical, zoological, etc.) and that of non-academic scientific bodies, including the State Radiological Institute,

is noted. Work of the various groups is outlined in turn, with indication of published results. **Copy seen:** DGS.

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ORBÁN, TIBER, see Radnót, M., and T. Orbán. A fény hatása . . . 1956. No. 47499.

ORE, LISE, see Williams, P. J., and others. Preliminary report . . . solifluction and patterned ground . . . Norway. 1956. No. 48963.

47190. OREKHOVSKIĬ, F. V., and A. A. BYKOV. Opyt primeneniâ selsmorazvedki v zimnikh usloviâkh Kulbyshevskogo Povolzh'â. (Razvedka i okhrana nedr, Feb. 1956. god 22, no. 2, p. 36–42, illus.) Text in Russian. Title tr.: Experience in the use of seismic exploration at Kuybyshev, on the bank of the Volga under winter conditions.

Winter geophysical explorations of this region with numerous water bodies (lakes, rivers, marshes, ponds, etc.) are described in detail, as guidance in work in northern Siberia, the Far East and other regions not easily accessible in summer. The working outfit comprises a seismic station of type SS-51-D-F, with a seismograph type SP-16 and velocity filter, placed in a heated and wellinsulated shed installed on sleds; five well drillers (type AVB-T) on a tractor; one snake driller (BS-3A), water and oil tanks also in heated sheds. Selection of the exploration site, setting up the equipment with protection against snow drift and wind, work procedures, maintenance of communication lines, and other details are described on the basis of three winters' (1952/53-1954/55) experience.

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47191. ORFENOV, A. Sibir', Dal'nif Vostok. (Sovetskafa muzyka, July 1956. god 20, no. 7, p. 119-21.) Text in Russian. *Title tr.:* Siberia, Far East. *Describes* musical centers of eastern Siberia; importance of the Khabarovsk radio and philharmonic orchestra, whose broadcasts supply music to Chukotka, Anadyr' and Sakhalin, is stressed.

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ORFORD, THOMAS, see Meltzer, H., and others. Echinococcosis . . . Indians and Eskimos. 1956. No. 46704.

47192. ORGANIZATION FOR EURO-PEAN ECONOMIC COOPERATION. Les problèmes de la construction d'hiver; techniques observées en Suède et au Danemark. Rapport de la Mission d'assistance technique no. 70. Paris, Feb. 1953. 118 p. illus., diagrs. tables. 55 refs. Text in French. *Title tr.*: The problems of winter construction; techniques observed in Sweden and Denmark.

Contains a discussion of social, economic, and practical engineering problems arising from building and other construction activities during the winter season. The satisfactory solutions that have been developed for some of these problems in Sweden and Denmark are discussed. The methods outlined are chiefly applicable to winter conditions in middle latitudes although some of the procedures are adaptable to the Arctic and sub-Arctic. Copy seen: DLC.

47193. ORION. Aklavik zieht um. (Orion, Nov. 1954. Jahrg. 9, Heft 21/22, p. 883.) Text in German. Title tr.: Aklavik moves.

Contains a brief discussion of the pending move of the settlement of Aklavik scheduled to start in the winter of 1955-56. Houses will be transported by sleds and tractors and erected on prepared foundations at the new site near the old one. Unfavorable soil and sanitary conditions are among the reasons for the move.

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ORLOV, B. A., see Akademiia nauk SSSR. O zadachakh . . . nablūdenii mezhdunarodnoi sluzhby shiroty. 1954. No. 43516.

47194. ORLOV, BORIS PAVLOVICH. (Î). M. Shokal'skii, ego zhizn' i deîatel'nost'; k stoletiîî so dnîa rozhdeniîa.
Moskva, Izd-vo "Znanie," 1956. 24 p.
port. (Vsesoûznoe obshchestvo po rasprostraneniîû politicheskikh i nauchnykh
znanii, seriîa 3, no. 48.) 10 refs. Text in
Russian. Title tr.: [Î]. M. Shokal'skii,
his life and activities; on the centenary of
his birth.

Biography of the noted Soviet geographer, hydrologist and explorer, Wili Mikhallovich Shokal'skil, 1856–1940. His scientific explorations of arctic regions are indicated, ten geographic features bearing his name are listed, six of them in the Arctic. Copy seen: DLC.

ORLOV, BORIS PAVLOVICH, see also Akademiîa nauk SSSR. 100 let . . . Shokal'skogo. 1956. No. 43519.

47195. ORLOV, G. Za tíulenem. (Okhota i okhotnich'e khozíalstvo, Nov. 1956,

no. 11, p. 26–27, illus.) Text in Russian. *Title tr.:* Sealing.

Sketches spring sealing in the White Sea. Rearing and growth of seal cubs is briefly described, and stability of the White Sea stock due to strict regulation of hunting is noted.

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47196. ORLOVA, E. Moi druz'\(\hat{a}\)-sever-\(\hat{a}\)ne. (Sibirskie ogni, Nov.-Dec. 1955. god 34, no. 6, p. 102-111.) Text in Russian. *Title tr.:* My friends, the northerners.

Describes a zootechnician's visit to the Nenets (Samoyed) kolkhozes on Yamal Peninsula and the district center Salekhard. Living conditions and reindeer husbandry are discussed; the inadequacy of housing, heating and school facilities for the semi-nomadic herders and their families is criticized. The trading posts, settlements, and fishing communities on Yamal and the Gydan Peninsula, along the Taz and Ob' Bay coasts and in the Pur and Taz River basins are supplied by shipping from Salekhard.

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47197. ORLOVA, V. Na kraŵ Sibiri: "Étogo sa sebe nikak ne predstavlsala." (Sovetskii sowz, Nov. 1956, no. 11, p. 10–11, illus.) Text in Russian. Title tr.: On the border of Siberia: "I could never have imagined anything like that."

Impressions of a girl working as a plasterer and painter in Noril'sk; photos. of the town by IU. Bagranskii.

Copy seen: DLC.

47198. ORRE, THORSTEN. Med sportstugan på släp, om långfärder och friluftsliv med husvagn. (Svenska turistföreningen, Stockholm. Årsskrift, 1949. p. 323–38, 4 illus.) Text in Swedish. Title tr.: With a sports cabin in tow, on long trips and outdoor life with a trailer.

Summer travel in Sweden, especially to the northern region, is described; the trailer is used as a base camp.

Copy seen: DGS.

47199. ORSTADIUS, AXEL, Jr. Rika fiskevatten. (Svenska turistföreningen, Stockholm. Årsskrift, 1895, p. 96–114, 2 illus.) Text in Swedish. Title tr.: Rich fishing waters.

Best fishing streams in northern Sweden include the Arvidsjaur, Kilver, Storvatn, Kasker, and Arjeplog waters. Information on routes and fishing suggestions are provided. *Copy seen*: DGS.

47200. ORTAVANT, R., and C. THI-BAULT. Influence de la durée d'éclairement sur les productions spermatiques du bélier. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 2, p. 358-61, illus., tables.) 15 refs. Text in French. Title tr.: Influence of light duration on spermatogenesis of the ram.

Report of experiments which showed that extending the daily duration of illumination causes considerable reduction of spermatic reserves in this animal. However, no variations in the activity of the interstitial tissue could be detected with the methods applied.

Copy seen: DNLM.

**47201.** ORVIG, SVENN, 1920—. The McGill University-Arctic Institute Carnegic arctic program. (Association of American Geographers. Annals, June

1956. v. 46, no. 2, p. 267-68.)

Contains abstract of paper presented at the 52nd Annual Meeting of the Association, Montreal, Apr. 1–5, 1956. The Carnegie Corporation of New York made a grant to McGill University and the Montreal Office of the Arctic Institute in 1951, for arctic studies, in a five-yr. period. With scholarships 34 students from seven countries have worked in Canada (mainly), Alaska and Greenland. Studies in botany, geography, geology, parasitology, sociology, anthropology, zoology have been carried out. Copy seen: DGS.

47202. ORVIN, ANDERS KRISTIAN, 1889– . Expeditionen des Norsk Polarinstitutt nach Svalbard, Jan Mayen und Ostgrönland in den Jahren 1953 und 1954. (Polarforschung, 1954, pub. 1956. Bd. 3, Heft 1–2, Jahrg. 24, p. 299–300.) Text in German. Title tr.: Expeditions of the Norsk Polarinstitutt to Svalbard, Jan Mayen and East Greenland in the years 1953 and 1954.

Hydrographic soundings of the coastal waters near Jan Mayen were continued in 1953 and 1954, but no scientific or topographic units were sent to Svalbard in 1953. The annual relief expeditions to Myggbukta Radio and the Norwegian hunting grounds in northeast Greenland were continued in both years. A scientific expedition of 30 men conducted hydrographic, topographic, geological, glaciological, and ornithological investigations on Svalbard from June–Aug. 1954.

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47203. OSBORNE, DOUGLAS, and others. The problem of Northwest

Coastal-Interior relationships as seen from Seattle. (American antiquity, Oct. 1956. v. 22, no. 2, p. 117–28.) 38 refs. Other authors: W. W. Caldwell and R. H. Crabtree.

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Charles Borden's excavations in the Fraser delta (British Columbia) area are They brought to light an discussed. early occupation with traits of Eskimoid culture which he terms Early Maritime. His attribution of traits in the following period to the Interior (Athabascan hinterland) is examined and evaluated: the writers take issue with Borden's hypothesis of an Interior influence on the Coastal culture. The relationship between the Eskimoid or Early Maritime culture of the Fraser delta and northern Eskimo cultures (Okvik, Paleo-Aleut, Kachemak Bay I) finds is analyzed, and a wider and earlier circumpolar culture pattern sug-Copy seen: DLC. gested.

47204. OSBURN, RAYMOND CAR-ROLL, 1872— . Bryozoa collected in the American Arctic by Captain R. A. Bartlett. (Washington Academy of Sciences. Journal, Dec. 15, 1936. v. 26, no. 12, p. 538–43, illus.) 9 refs.

Contains notes and distributional data on about a hundred species, with list of 17 stations ranging from Hudson Strait-Davis Strait to northwest Greenland.

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OSGOOD, WILFRED HUDSON, 1875— , see Lyon, M. W., and W. H. Osgood. Catalogue . . . type specimens . . . mammals . . . 1909. No. 46506.

OSIN, PAVEL SERGEEVICH, see Stepanov, P. A. Sady v ÎAkutii. 1956. No. 48198.

47205. OSINOVSKIĬ, V. I. Kreditovanie loparskogo naselenifa. (Murmanskoe obshehestvo kraevedenifa. ) Doklady i soobshehenifa, 1927. vyp. 1, p. 35–38, tables.) Text in Russian. *Title tr.:* Credit system of the Lapp population.

Fisheries and reindeer breeding are the main occupations of over 1,600 seminomadic Lapps on Kola Peninsula, who are making only the first steps in vegetable growing and livestock raising. Loans are made through five loan associations. In 1925–27, over 11,000 rubles were disbursed to 94 households with 397 persons, mostly belonging to the poorest of the population; 6,408 r. were lent for reindeer breeding, with the average price of reindeer, 20 r./head; 3,020 r. went for

fisheries development; 880 r. for purchase of cows. The loans granted for nine months to three years, averaged at 121 r. The Lapps' regular repayment of debts is noted.

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47206. OSIPOV, E. Prognoz v okhotnich'em promysle. (Nauka i zhizn', Dec. 1956. god 23, no. 12, p. 52.) Text in Russian. *Title tr:* Forecasting in the hunting industry.

Describes work of the Ecological Laboratory (headed by I. D. Kiris) of the All-Union Scientific research Institute for Hunting Industry (VNIO). Data pertinent to the occurrence of fur animals are supplied by the Institute's branches, stations and some 7,000 corre-These data are analyzed in spondents. the Laboratory and forecasts issued on hunting prospects in the main hunting areas of U. S. S. R., including Krasnovarskiy Kray, Yakutia and Kamchatka. Importance of this work for the hunting industry is stressed.

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47207. OSIPOV, K. S. I. Chelûskin. Pod red. M. S. Bodnarskogo, Moskva, Gos. izd-vo geogr. lit-ry, 1951. 35 p. illus., maps. Textin Russian. *Title tr.*: S. I. Chelûskin. M. S. Bodnarskif, editor.

Biography of the Russian sea-farer and explorer Semen Ivanovich Cheliuskin and account of his participation in the Great Northern Expedition, based partly on his diary; his trip under Pronchishchev in 1735-36 down the Lena River on the Yakutsk and westward from its mouth; his voyage under Kh. Laptev in 1739-40; overland exploration of the Taymyr Peninsula in 1740-42, reaching the northernmost part of Asia, the cape which now bears his name. A brief outline is included (p. 5-7 and 32-34) of the scope and achievements of the Great Northern Expedition. Copy seen: DLC.

47208. OSIPOV, P. Sad v Zapolıâr'e. (Ünyı naturalist, Sept. 1956, no. 6, p. 34–35, illus.) Text in Russian. *Title tr.:* Garden above the Arctic Circle.

Kandalaksha (67°09′ N. 32°26′ E. on Kola Peninsula), several years ago, had not a single tree or bush growing on its barren sandy ground. Today, it has birch, pine, spruce, even oak and apple trees, also raspberry and black-currant bushes, thanks to the railroad school. The latter's success is attributed

chiefly to soil improvement by adding sawdust, compost, etc. Copy seen: DLC.

47209. OSMOLOVSKIĬ, A. Ledovye podkrepleniâ buksirov. (Morskoĭ flot, Feb. 1947. god 7, no. 2, p. 18–22, table, graphs.) Text in Russian. Previously listed as No. 12925. *Title tr.:* Reinforcement of tugboat hulls against ice pressure.

Stress analysis is given for the hulls of tugboats in actual service in northern ports. Reinforcement of certain parts of the hulls (mainly forward) is recommended as for the ice-breaker type or for tugs which work in crushed ice. General specifications are outlined for new heavy duty marine tugboats. *Copy seen:* DLC.

47210. OSMOLOVSKIĬ, A. Nekotorye uluchsheniâ ledovykh kachestv reľdovykh buksirov tipa "Profintern." (Morskoľ flot, Nov.-Dec. 1946. god 6, no. 11-12, p. 19-20, diagrs.) Text in Russian. Title tr.: Improvements in iceresistant properties of harbor tugboats of the Profintern type.

Structural changes in the shape of the bow of six tugboats for ice breaking are described and diagrammed.

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47211. OSTDIEK, JOHN L. Ecological studies on the Alaskan blackfish, Dallia pectoralis Bean, in the Barrow, Alaska, region. Washington, D. C., June 1956. 2, 15 p. photos, tables. 10 refs. M. S. thesis, Catholic University of America.

Stations (five) in two small lakes and polygon ditches and conditions of the fish habitat (the pH, O<sub>2</sub>-content and temperature) are described. Food contents found in stomachs of 77 fish are analyzed: 6,008 individual organisms identified in 17 groups; the most important, Cladocera, Ostracoda and Diptera larvae. Records are given on length and weight of over 250 individual fish.

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47212. OSTREKIN, MIKHAIL EMEL'-ANOVICH. Bathymetry and glaciology of central portion of Arctic Ocean. (International hydrographic review, Nov. 1956. v. 33, no. 2, p. 171-74, map.) Based on an article by M. E. Ostrekin pub. in *Priroda*, 1954, no. 12, cf. No. 36623 of Arctic Bibliography.

The complex bottom structure of the Arctic Basin and ice conditions in the Central Arctic are reviewed briefly. An

extensive range of submarine mountains was discovered in 1948 extending from the New Siberian Islands to the North Pole and beyond towards Greenland. This range, named the Lomonosov Chain, divides the Arctic Ocean into the western or Atlantic part and the eastern or Pacific part. The Pacific portion of the Central Arctic contains old ice fields which move in a nearly-closed circulation with little change in thickness. Ice in the Atlantic section is younger ice (2–3 yrs. old) and moves in an irregular pattern, finally emptying into the Greenland Sea.

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47213. OSTROVETSKIĬ, K. L. Diatomity Monche-guby. (*In:* Khibinskie apatity, 1933. t. 6, p. 250–55, table, map.) Text in Russian. *Title tr.:* Diatomites of Moncha Bay.

The use of a diatomitic mixture for house bricks is described, with indication of available deposits in Kola Peninsula (including Khibiny) and their chemical composition (table). Characteristics of bricks of various clay-diatomite proportions are given, including corresponding firing temperature, specific weight, water absorption factor, and other physical properties.

\*\*Copy seen: DGS.\*\*

OSWALT, WENDELL, see Harp, E. Aretic, 1. 1956. No. 45445.

OTANI, TAKUZO, see Kawabata, G., and T. Otani. The influence of temperature . . . smooth muscle. 1951. No. 45918.

47214. OTIS, ARTHUR BROOKS, 1913-, and others. Pulmonary gas exchange in hypothermia. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 139-40.) Other authors: J. R. Jude and R. Folse.

Account of experiments with dogs made hypothermic down to 16° C. No increase in the arterial-alveolar gradient was observed and it is concluded that hypothermia produces no significant barrier to carbon dioxide transfer between blood and lungs.

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OTT, DONALD G., see Lushbaugh, C. C., and others. The production of poikilothermia . . . 1956. No. 46497.

47215. OTTELIN, ODAL, 1868– . Från Piteå till Bodö. (Svenska turistföreningen, Stockholm. Årsskrift, 1894, p. 63–84.) Text in Swedish. *Title tr.:* From Piteå to Bodø. Describes a journey along the Piteâ River into Lapland: characteristic features of the landscape, forests, reindeer, bogland, lakes, sounds of nature, etc. Writer traveled by way of Arjeplog and Graddis, Fjellstua and Junkerdalen, to Bodø; he visited the reversible flow of water in Skjaerstadfjorden. Record of distances covered and means of travel is included.

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OVCHAROV, V. I., see Zashchepin, A. N., and V. I. Ovcharov. Morozostoïkost' betona . . . 1956. No. 49040.

OVERMAN, RICHARD ROLL, 1916—, see Barlow, G., and others. Blood . . . 17-hydroxycorticosteroids . . . hypothermic dogs. 1956. No. 43874.

OVERTON, ROBERT C., Jr., see Couves, C. M., and others. Hematologic changes . . . hypothermic dogs. 1956. No. 44478.

47216. OWENS, GUY, and others. Electroencephalographic responses in dogs during reduced blood flow. (Surgical forum, 1956. v. 6, p. 506-510, illus., tables.) 4 refs. Other authors: J. L. Sawyers and J. W. Ward.

Contains a study of the EEG, ECG, cerebro-spinal fluid and arterial pressure of dogs during low rates of blood flow at normal and reduced body temperatures. Variations in azygos flow were less marked in the hypothermic animals but the rate of flow was greatly reduced. Tolerance to total ischemia was increased during hypothermia.

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OWENS, J. CUTHBERT, see Marshall, S. B., and others. Temporary circulatory occlusion . . . brain . . . hypothermic dog. 1956. No. 46639.

47217. OWREN, LEIF, and others. Arctic radio wave propagation, tasks A and B. Quarterly progress report no. 1, 1 March to 31 May 1956. College, Alaska, University of Alaska, Geophysical Institute, 1956. 15 l. Other authors: H. Leinbach, R. A. Stark, and N. E. Warman.

Contains results of investigations to obtain additional information concerning the effects of aurora on high frequency radio signals. A signal fluctuation index useful for correlation purposes could be scaled. The operation of the 12 mc radar is described, and radio echoes believed to be associated with sunlit aurora are reported for the first time. Plans have

been made for the design and construction of a transponder for investigating pulse shapes, strengths, and paths.

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OWREN, LEIF, see also Little, C. G., and others. Radio wave propagation . . . 1956. No. 46397.

47218. OZHINSKIĬ, I. S. Lovchorritovye mestorozhdeniâ vneshnego poâsa Khibinskikh tundr. (*In:* Khibinskie apatity, 1933. t. 6, p. 107–111, map.) Text in Russian. *Title tr.:* Lovchorrite formations in the outer belt of the Khibiny tundras.

Detailed study was made in the region of Lovehorr, Vud'' favrchorr and Takhtarvumchorr to locate new deposits. Geological structure of lovehorrite is outlined as short and interrupted veins with various minerals unevenly interspersed (feldspar, nepheline, algirite, pegmatite, rinkolite, pyrrhotite, etc.). Deposits of this type have no industrial significance, hence can be mined only by the individual prospector. Data on the genesis of the lovehorrite and possibilities for further search are given. Copy seen: DGS.

**47219.** P., L. B. Shipping operations in Hudson Bay. (Marine observer, Jan. 1956. v. 26, no. 171, p. 28–32, illus.)

Contains analysis of reports from several sources concerning seaborne trade activities in the Hudson Bay area. Increase in commercial voyages to Churchill is steady, viz., in 1950–1954 seasons: 20, 21, 27, 31, 36. Marine insurance rate and navigation period (July 23–Oct. 10) remain the same. The possibility of a ship being caught in the Bay or Strait after leaving Churchill at the end of the season is considered remote. The Commonwealth Shipping Committee considers these areas to be as safe for navigation as the St. Lawrence River.

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47220. P., Z. Fiziko-geograficheskoe raionirovanie severa i vostoka SSSR. (Akademiß nauk SSSR. Izvestiß, seriß geograficheskaß, Sept.—Oct. 1956, no. 5, p. 137—39.) Text in Russian. *Title tr.:* Physical geographic zoning of the northern and eastern U. S. S. R.

Reports a paper of this title, delivered by K. V. Zvorykin and Ū. P. Parmuzin at the Apr. 3 (1956) meeting of the Moscow Branch (Filial) of the Geographical Society. Division of the northern (cold) belt of the U. S. S. R. into nine physical geographic zones was proposed and demonstrated on a map. This division met with approval in the ensuing discussion. Copy seen: DLC.

47221. PACIFIC BUILDER AND EN-GINEER. Barter Island tractor train beats the ice on DEW Line camp job. (Pacific builder and engineer, Feb. 1956.

v. 62, no. 2, p. 78, illus.)

A brief account is given of operations and equipment for supply operations involving a tractor train operating from Barter Island over sea ice to a radar station site. The train, consisting of 45 sleds and nine caterpillar D-8 tractors left on March 28 and arrived on April 20. The tractors averaged better than 40 mi./ day pulling five sleds. A Weasel was used to scout the trail and a Cessna 195 aircraft for spotting pressure cracks in the Copy seen: DLC. sea ice.

47222. PACIFIC BUILDER AND EN-GINEER. Cold weather lab to be in New Hampshire. (Pacific builder and engineer, Feb. 1956. v. 62, no. 2, p. 78, col. 3.)

Contains brief announcement that Corps of Engineers facilities at Boston (Arctic Construction and Frost Effects Laboratory) and Wilmette, Ill. Ice and Permafrost Research Establishment) will be combined at a new facility in New Hampshire. An Alaska site (Fairbanks) was rejected.

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47223. PACIFIC BUILDER AND EN-GINEER. White Alice project site studies. (Pacific builder and engineer, June 1956. v. 62, no. 6, p. 148.)

Problems of the United States Army Corps of Engineers are described in collecting data for design of the so-called White Alice communication installations. These repeater stations are being built across Alaska to support the early warning radar system. In survey work and excavation for soil samples at inaccessible sites and under hard weather conditions. the dependability of native labor and dog teams is stressed. Copy seen: DLC.

PADÁNYI, ALAJOS, see Harkányi, I., and others. Die experimentelle Entblutung des Herzens . . . 1956. No. 45440.

PADÁNYI, ALAJOS, see also Harkányi, I., and others. Künstliche Hypothermie . . . 1956. No. 45441.

47224. PADERIN, G. Sibirskafa énergeticheskafa. (Sibirskie ogni, May-June 1956, god 35, no. 3, p. 79-81.) Text in Russian. Title tr.: Siberian power.

Describes hydroelectric stations planned for construction on the Yenisey, Angara and Ob' during the 6th Five-year Plan.

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PADGET, PETER, see Norsk geologisk tidsskrift. Second Nordic Geologic ... meeting . . . 1956. No. 47080.

47225. PAGAEVA, S. T. O estestvennom sinopticheskom raione. (Meteorologifà i gidrologifà, Nov.-Dec. 1953, no. 10, p. 14-19, 2 maps.) Text in Russian. Title tr.: Natural synoptic region.

The region of natural distribution of the thermobaric field in the troposphere, with more or less steady synoptical processes for a few days is described. The Northern Hemisphere is divided into three sectors: Greenland-Taymyr, Taymyr-Bering Strait, and Bering Strait-These processes are illus-Greenland. trated by isonomic maps plotted for January and July 1953. The character of the synoptical center is described for each sector. Copy seen: DLC.

PAGÉ, EDOUARD, 1909-, see USQM Food & Container Institute. Nutrition symposium. 1954. No. 48643.

47226. PAGE, WILLIAM B. Design of water distribution systems for arctic regions. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 56-61, diagrs., tables.) 7 refs.

Studies were conducted to determine whether water circulation could be maintained through a house service pipe constructed as a loop with both ends attached to a single water main by a special fixture (called a pitorifice), and to compare the efficiency of pitorifices which could be fabricated easily and economically. The observations involved making a series of simultaneous measurements of the velocity in the model main and service pipes. The efficiency of various pitorifices was compared by plotting the relationship between the velocity in the main and the velocity in the service pipe for each individual pitorifice. Preliminary calculations indicate that a main velocity of 2 ft./sec. is feasible to maintain and that freezing will be prevented in the service pipes by the velocity of 0.17 ft./sec.

47227. PAGE, WILLIAM B. Heat losses from underground pipe lines. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub.* 1956, p. 41–46, graph.) 9 refs.

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A mathematical expression for heat loss from buried water and sewer lines is developed based on a series of measurements made in Fairbanks. A graph is given for estimating the heat loss in Btu/hr. linear ft. of pipe for a temperature gradient of 0-9° F. measured in the soil 12 in. radially from the pipe wall and for pipes with outside diameter of 1 to 32 inches. The estimate can be expected to have an accuracy within 25 percent.

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47228. PAIGE, RUSSELL A. Subglacial stoping or block caving: a type of glacier ablation. (Journal of glaciology, Oct. 1956. v. 2, no. 20, p. 727–29, 7 illus.) 3 refs.

Describes an unusual method of glacier retreat observed in April and September on Black Rapids Glacier, Alaska Range, 63°31′ N. 145°53′ W. The center of the terminal area recedes the most rapidly because of a meandering subglacial river that accelerates melting of its sides. Lateral melting of the ice on the convex side of the meanders weakens the ice roof and causes a series of concentric, crescent-shaped crevasses to form on the glacier surface. This caving-in and lateral melting has been termed "subglacial stoping" or "block caving" by J. G. McCall.—From SIPRE.

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PAIGE, RUSSELL A., see Péwé, T. L., 'and R. A. Paige. Frost action on piling . . . 1956. No. 47339.

PAIJKULL, LILLY, see Euler-Chelpin, A. M., and L. Paijkull. Genom Lule Lappmark . . . 1896. No. 44816.

PAKHOMOV, A. S., see Kondorskii, E. I., and others. K teorii spontannoi namagnichennosti . . . 1956. No. 46061.

47229. PAKHTUSOV, PETR KUZ'-MICH, 1799–1835, and S. A. MOISEEV. Dnevnye zapiski P. K. Pakhtusova S. A. Moiseeva. Moskva, Gos. izd-vo geogr. lit-ry, 1956. 213 p. illus., ports., facs., tables, maps (1 fold.) Refs. Text in Russian. Title tr: Diaries of P. K. Pakhtusov and S. A. Moiseev. V. M. Pasetskii, editor.

Reprint of the original materials on three Novaya Zemlya expeditions: those of Pakhtusov in 1832–1833 and 1834–1835 (infra), and that of TSivol'ka and Moiseev in 1838–1839 (No. 48485). The original text of the diaries and their appendices is slightly abridged and rearranged, and illustrations are added; glossary of terms used by hunters of Arkhangel'sk Province (p. 146–50) and editor's notes (footnotes and p. 208–213) are appended. Brief biography of Pakhtusov and sketches of achievements of TSivol'ka and Moiseev are given in the editor's preface, p. 3–18.

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47230. PAKHTUSOV, PETR KUZ'MICH, 1799—1835. Ekspeditsiâ podporuchika Pakhtusova dliâ opisi vostochnogo berega Novoĭ Zemli v 1832 i 1833
godakh. (U. S. S. R. Gidrograficheskiĭ
departament. Zapiski, chast' 1, 1842,
p. 1–246, fold. map.) Text in Russian.
Title tr: Expedition of Lieutenant
Pakhtusov to the eastern coast of
Novaya Zemlya in 1832 and 1833.

Reprinted in No. 47229.

Contains the basic materials on the first Pakhtusov expedition, sponsored by a company of Russian merchants headed by Klokov; it was to explore the shores of Novaya Zemlya and attempt a voyage to the Yenisey River mouth. The party left Arkhangel'sk on Aug. 1, 1832 with two vessels, the Novaia Zemlia under command of Pakhtusov, and the Eniset under his aide, Lieutenant Krotov; on Aug. 9, the vessels were separated and the Eniset was never seen again. Left with but ten men. Pakhtusov surveyed the southern coasts of the southern island of Novaya Zemlya till the advanced season forced him to winter in an old hunters' hut at Kamenka Bay (70°36' N. 57°25' Work was resumed in July 1833, and Pakhtusov succeeded in describing the eastern coast of southern island up to Matochkin Shar Strait. Though ice conditions were favorable for further penetration northward or eastward, Pakhtusov was forced to turn back by the poor health of his men. The Novaia Zemlia reached the Pechora River mouth and from there Pakhtusov traveled on reindeer sled to Arkhangel'sk (Nov. 21). Two of his men had died during the wintering and a third on the voyage home. Pakhtusov's diary, Aug. 1, 1832-Sept. 5, 1833 (p. 20-201) records the events of the expedition, its work, hunting, hardships, etc.; his summary of its results are appended (p. 202-220) with

remarks on the climate, geomorphology, soils and hydrography, also the minerals, vegetation and wildlife: birds, insects, land and sea animals, etc. Pakhtusov's instructions from the sponsor of the expedition are included (p. 220-44). Debris of a vessel found 1834-35 on the shores of Novaya Zemlya is reported as that of the Eniset. Editor's (M. F. Refneke?) introduction (p. 1-19) reviews previous expeditions to these islands and presents Pakhtusov's statement of his objectives. The map compiled by Pakhtusov of the southeastern part of Novaya Zemlya and Matochkin Shar, is inserted at the end of the volume.

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47231. PAKHTUSOV, PETR KUZ'-MICH, 1799–1835. Vtorafà ékspedi fsifa podporuchika Pakhtusova k vostochnomu beregu Novoĭ Zemli v 1834 i 1835 godakh. (U. S. R. Gidrograficheskiĭ departament. Zapiski, chast' 2, 1844, p. 1–163, tables incl., 1 fold., fold. map.) Text in Russian. Title tr.: The second expedition of Lieutenant Pakhtusov to the eastern coast of Novaya Zemlya in 1834 and 1835. Reprinted in No. 47229.

After return from his first expedition in 1833, Pakhtusov suggested another to complete description of the eastern coasts of Novaya Zemlya. It was sponsored by the Russian Hydrographic Dept., and Pakhtusov, with A. K. TSivol'ka secondin-command, headed a 17-man party from Arkhangel'sk on July 24, 1834, on the schooner Krotov and a hunters' boat (karbas) Kozakov. They reached Matochkin Shar on Sept. 6th, and in view of the advanced season, wintered on the southern shore of the strait, at the mouth of Chirakina River (73°17′ N. 54°21′ E.). In the spring, a sled party headed by TSivol'ka explored the eastern coasts of the northern island up to Cape Flotova, 150 km. north of Matochkin Shar; Neznayemyy and Medvezhiy Bays were discovered and the coast visually surveyed. When ice conditions permitted, Pakhtusov sailed the Kozakov northward along the western coast aiming to round Cape Zhelaniya. He reached the Gorbovy Islands (75°55' N. 59°00' E.) where the boat was wrecked, and the party rescued by Russian hunters and returned to winter camp. Pakhtusov subsequently made a boat trip along eastern shores, reached 74°24' N. and discovered a group of islands which now bears his name. further advance northward

blocked by heavy ice, Pakhtusov turned about and reached Arkhangel'sk at the beginning of October. Two of his men died during the expedition, and a month after return, Pakhtusov himself died.

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Pakhtusov's diary, May 1834-Oct. 7, 1835 is presented (p. 9-81), preceded by text of his instructions from the Hydrographic Dept. Appended are the scientific results of both expeditions as worked up by the editor, M. F. Reĭneke from Pakhtusov and TSivol'ka's notes: a summary, notes on the coastal features and a hydrographic description of the places visited (p. 82-115). A glossary of terms used by hunters of Arkhangel'sk Province is given (p. 115-29). Data are presented (p. 130-63) of the astronomical, geomagnetic and tidal observations carried out 1832-35. Fold, map of Novaya Zemlya (at end of vol.) is based in part on Pakhtusov's work. A sketch of his life, signed S. K., is also given, p. 412-19. Copy seen: DLC.

PALAGI, LUCIANO, see Rijlant, P., and L. Palagi. L'action du froid . . . 1956. No. 47585.

47232. PALM, THURE, 1894 - . Anteckningar om svenska skalbaggar, XI. (Entomologisk tidskrift, June 1956. Årg. 77, häfte 1, p. 56–63, 2 illus.) Text in Swedish. *Title tr.:* Notes on Swedish beetles, XI.

Contains an annotated list of 20 species, among them Amara nigricornis, Ptiliolum croaticum and Chrysobothris chrysostigma, occurring in Pite Lappmark, Sweden For earlier parts of this series see No. 24945 of Arctic Bibliography. Pts. VI-X do not include arctic material.

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47233. PALM, THURE, 1894—. Bidrag till kännedomen om svenska skalbaggars biologi och systematik, 15–17. (Entomologisk tidskrift, June 1956. Årg. 77, häfte 1, p. 40–48, 11 illus.) 7 refs. Text in Swedish. Summary in German. Title tr.: Contributions to the knowledge of biology and systematics of Swedish beetles, 15–17.

Contains systematic and critical notes and distributional data on Swedish beetles. Philonthus (Gabrius) splendidulus (Målselv, northern Norway) and Gabrius exspectatus (Abisko and Jokkmokk in Swedish Lapland) are included. Pts. 4–9 of this series were listed as No. 41765; pts. 1–3, 10–14 do not include arctic material. Copy seen: DLC.

47234. PALM, THURE, 1894— . Skalbaggar i en lappländsk skogsmyr. (Entomologisk tidskrift, June 1956. Årg. 77, häfte 1, p. 49–55, 2 illus.) 1 ref. Text in Swedish. Summary in German. Title tr.: Beetles of a Lapland forest bog.

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General description is given of a bog in an inundated forested area in Arvidsjaur district in Swedish Lapland, together with a simple list of 135 coleopterous species collected in the summer of 1955. \*\*Copy seen: DLC.

47235. PALM, THURE, 1894—. Systenocerus caraboides L. och cribratus Muls.; Col., Lucanidae. (Entomologisk tidskrift, June 1956. Årg. 77, häfte 1, p. 19–24, 2 illus.) 2 refs. Text in Swedish. Summary in German. Title tr.: Systenocerus caraboides L. and cribratus Muls.; Col., Lucanidae.

Contains a comparative taxonomic study of these two species, of which S. caraboides occurs in the Kihlangi and Pajala regions of Norrbotten, Sweden. A new name, Platycerus caraboides, is proposed.

Copy seen: DLC.

47236. PALM, THURE, 1894—. Zur Kenntnis der Biologie von Acmaeops pratensis Laich. und verwandten Arten; Col., Cerambycidae. (Opuscula entomologica, 1956. bd. 21, häfte 2–3, p. 233–45, 21 illus.) 2 refs. Text in German. Title tr.: Contribution to knowledge of the biology of Acmaeops pratensis Laich. and related species; Col., Cerambycidae.

Contains a key to mature larvae of three species of Acmaeops, and observations on the metamorphosis and life cycle of pupae and larvae of these cerambycids in Torne and Lycksele Lappmark; measurements of larvae in various stages of their development are given.

Copy seen: DSI.

47237. PALMA, G., and others. Studio dell' influenza dei tessuti periferici sui microchiloni del siero. 3; variazioni dello scarto artero-venoso postprandiale dei microchiloni per effetto di stimolazioni termiche distrettuali (caldo e freddo). (Società italiana di biologia sperimentale. Bolletino, 1956. v. 32, no. 6, p. 334-37, illus., tables.) Text in Italian. Other authors: C. Cordova and C. D'Arrigo. Title tr: Study on the influence of the peripheral tissues upon the chylomicrons of serum. 3: variations in the arteriovenous postprandial discharge of chylomicrons under the effect of thermal distress stimuli (heat and cold).

Includes observations on conditions in dogs made locally hypothermic by application of an ice-filled sleeve to the studied area. The fluctuation in both the arterial and venous vessels was too small to be attributed with certainty to the cold stimulus. Copy seen: DNLM.

47238. PALMÉN, ERNST. Eräitä mielenkiintoisia kovakuoriaislöytöjä. (Suomen hyönteistieteellinen aikakauskirja, 1940. v. 6, no. 3, p. 80–82.) Text in Finnish. Summary in German. *Title tr:* Some interesting beetle finds.

Contains distributional data on eleven species inhabiting Finland, among them Trachypachys zetterstedti in the Kuusamo region (Salla) and Finnish Lapland.

Copy seen: DLC.

47239. PALMÉN, ERNST. Eine östliche Philonthus-Art, Ph. diversipennis Bernh. (Col., Staphylinidae) aus Finnland nebst Bemerkungen über zwei andere für die Fauna Finnlands neue Käferarten. (Suomen hyönteistieteellinen aikakauskirja, 1938. v. 4, no. 1, p. 43-47, 2 illus.) 10 refs. Text in German. Title tr: An eastern Philonthus species, Ph. diversipennis Bernh. (Col., Staphylinidae), with remarks on two others new to the beetle fauna of Finland.

Includes a re-description of Ph. diversipennis, a species known previously from the Kola Peninsula and Pechora River basin of northern U. S. S. R. Copy seen: DLC.

47240. PALMÉN, ERNST. Zur Systematik finnischer Chrysomeliden, 1. Gattung Galerucella Crotch. (Suomen hyönteistieteellinen aikakauskirja, 1945, v. 11, no. 2, p. 140–47, 4 illus., 6 text maps.) 10 refs. Text in German. Title tr: Contributions to the systematics of Finnish Chrysomelidae, 1; the genus Galerucella Crotch.

Contains discussion of this genus, a key to Fennoscandian species and distributional data on six; among them: G. nymphaeae (all Fennoscandia to the arctic coast), G. lineola (Utsjoki, Finnish Lapland). This is the first of a series of papers on the leaf-beetle family, no. 2-4 infra.

Copy seen: DLC.

47241. PALMÉN, ERNST. Zur Systematik finnischer Chrysomeliden, 2; Taxonomisches und Zoogeographisches über Phyllodecta boparis [i. e. polaris] Sp.-Schn. (Suomen hyönteistieteellinen aikakauskirja, 1945. v. 11, no. 3, p.

196–203, 6 illus., text map.) 9 refs. Text in German. *Title tr:* Contributions to the systematics of Finnish Chrysomelidae, 2; taxonomy and zoogeography of *Phyllodecta polaris* Sp.–Schn.

This paleo-boreal beetle, ranging from middle Scandinavia to Iceland, is not an arctic, even less a western arctic species. In Fennoscandia it is distributed in Kola Peninsula, and in Finnish Lapland.

Copy seen: DLC.

47242. PALMÉN, ERNST. Zur Systematik finnischer Chrysomeliden, 3; Untergattung Phytodecta s. str. (Suomen hyönteistieteellinen aikakauskirja, 1945, v. 11, no. 4, p. 227-34, 11 illus., 2 text maps.) 10 refs. Text in German. Title tr: Contributions to the systematics of Finnish Chrysomelidae, 3; the subgenus Phytodecta s. str.

Contains a critical revision of this coleopterous subgenus, comprising six Fennoscandian species. Included are P. sundmani (Jacobs.) n. sp., based on specimens from the lower Yenisey (type), the Lena River, Ayan on the Okhotsk seacoast, and eastern Karelia; and P. norvegicus from the Lena River, eastern Siberia, and the Kuusamo-Inari region in Finnish Lapland. Copy seen: DLC.

47243. PALMÉN, ERNST. Zur Systematik finnischer Chrysomeliden, 4; Phytodecta (Goniomena) quinquepunctatus F. und Ph. intermedius Hellies. (Suomen hyönteistieteellinen aikakauskirja, 1948. v. 14, no. 1, p. 1–10, 4 illus., 2 text maps.) 8 refs. Text in German. Title tr.: Contributions to the systematics of Finnish Chrysomelidae, 4; Phytodecta (Goniomena) quinquepunctatus F. and Ph. intermedius Hellies.

Critical, comparative study of the taxonomy and Scandinavian distribution of these two species, both occurring in northern Scandinavia and Kola Peninsula. Their origin and spreading in Scandinavia are discussed.

Copy seen: DLC.

PALMER, RALPH SIMON, 1914–, see Moore, J. C., and R. S. Palmer. More piked whales . . . 1955 No. 46828.

47244. PANASENKO, G. D. Zemleträsenie v Khibinakh. (Priroda, July 1956. god 45, no. 7, p. 110–11.) Text in Russian. *Title tr.:* Earthquake in Khibiny.

Contains a popular account of an earthquake Aug. 8, 1955, registered in Kirovsk and Monchegorsk, Kola Peninsula, the epicenter apparently near Kukisvumchorr in the Khibiny Mts. Its cause is attributed to the process of uplifting of central Kola Peninsula, accentuated in Khibiny.

Copy seen: DLC.

PANEAK, SIMON, see Irving, L. and S. Paneak. The weight . . . birds . . . migration. 1954. No. 45721.

47245. PANFILOV, D. V. Materialy po sistematike shmeler (Hymenoptera, Bombinae) s opisaniem novykh form. (Zoologicheskii zhurnal, Sept. 1956. t. 35, vyp. 9, p. 1325–34, 3 illus.) 3 refs. Text in Russian. Title tr.: Materials for the systematic of bumblebees (Hymenoptera, Bombinae) with descriptions of new forms.

Contains descriptions of 14 species and subspecies from various regions, of which three species and one subspecies are new. Bombus (Agrobombus) flavobarbatus, occurring on the Okhotsk Sea coast and in northeastern Kamchatka Peninsula, is included.

Copy seen: DLC.

47246. PANIN, K. I., and I. A. POLUTOV. Novye nakhodki v vodakh Kamchatki. (Priroda, Feb. 1956, no. 2, p. 128) Text in Russian. *Title tr.*: New finds in Kamchatka waters.

Notes find of Paralepis rissoi kröyeri, at 50°13′ N. 170°56′ E. in June 1955; also that of another fish, Anotopterus farao, in Olyutorskiy Bay of Bering Sea. Copy seen: DLC.

47247. PANKRATOV, N. S. Razrabotka torfiânykh mestorozhdenii na toplivo, ehast' 2; gidravlicheskie sposoby torfodobychi. Moskva, Gos. energeticheskoe izd-vo, 1948. 364 p. illus., tables, graphs, 11 refs. Text in Russian. Title tr.: Recovery of peat deposits for fuel, pt. 2; hydraulic methods. Textbook approved by the Ministry of Electric power stations of the U. S. S. R. for the peat technical schools.

Theoretical and practical problems in peat recovery are outlined. Sixty percent of the peat production is obtained by hydraulic methods, with settling and drying in special areas. The pumping, excavating, and other machinery and coordinated processes are described in detail. Various practical methods are

outlined (p. 72-75) for work on frozen ground. Copy seen: DLC

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47248. PANOFSKY, HANS A. Theories of climatic change. (Weatherwise, Dec. 1956. v. 9, no. 6, p. 183–87, 204, diagr., graphs.)

Summarizes the more important theories of climatic change, grouped as earth's crust, atmospheric, and astronomical theories, stressing the last (variations of solar activity, effects of orbital changes). Objections to the orbital theory are noted; many of the theories described can account for climatic changes, but writer prefers that based on earth's orbital changes plus mountain building.

Copy seen: DN-HO.

47249. PANTENBURG, VITALIS
1901— Die Erschliessung des kanadischen Nordens. (Geographische Rundschau, Aug. 1956. Jahrg. 8, Heft 8, p. 295–306, 8 illus. on 4 plates, text map.) Text in German. Title tr.: The opening of the Canadian North.

General survey of recent developments in the Canadian Arctic and sub-Arctic: means of transportation, importance of aircraft, development of airlines, use of snowmobiles and tractor trains in winter, etc. Mineral resources and mining districts; water power and forestry resources are outlined. Role of Hudson's Bay Co. in the North is noted. Agriculture and experimental farms, reindeer herding, fisheries, settlements and population are described.

Copy seen: DGS.

47250. PANTSER, A. V. Pluzhnyi snegoochistitel'. (Lesnañ promyshlennost', Nov. 1954. god 14, no. 11, p. 12–14, table, illus.) Text in Russian. *Title tr.:* Snow-removing plow.

The plow attached to the DT-54 tractor and operated by a special winch and cable is described in detail. Main dimensions and other data are tabulated. The tractor moves at about 5 km./hr. in snow of 0.5 m. height and has a removal capacity of 50,000-60,000 sq. m./8 hr. shift. Copy seen: DLC.

PAOLETTI, G., see Montini, T., and G. Paoletti. Comportamento del cuore isolato nella ipotermia . . . 1955. No. 46820.

PAOLETTI, G., see also Montini, T., and G. Paoletti. Effetto di mediatori chimici sul cuore isolato . . . ipotermia . . . 1955. No. 46821.

PAONE, JAMES, see Crawford, J. E., and J. Paone. Facts . . . uranium exploration and production. 1956. No. 44485.

PAPPAS, A. RAYMOND, see Thomas, H. D., and others. The effects . . . hypothermia ballistocardiogram . . . dog. 1956. No. 48369.

PAQUETTE, ROBERT GEORGE, 1915-, see Collias, E. E., and others. Eastern North Pacific . . . offshore physical and chemical data . . . 1956. No. 44415.

**PARENTELA, A.,** see Westin, B., and others. Na<sup>24</sup> clearance . . . hypo- and hyperthermic rats. 1956. No. 48921.

PARENTELA, A., see also Westin, B., and others. On . . . clearance of radio-bromide . . . 1956. No. 48922.

47251. PARFIN, SOPHY. Taxonomic notes on *Kimminsia*; Neuroptera: Hemerobiidae. (Entomological Society of Washington. Proceedings, Aug. 1956. v. 58, no. 4, p. 203–209, 15 illus.)

Contains a key to the species, a description of K. constricta n. sp., Gulkana River (62°50′ N. 145°34′ W.), Alaska, and a list of seven species examined by the author, including K. brunnea, K. disjuncta, K. furcata and K. involuta, all recorded in Alaska.

Copy seen: DA.

**47252. PARK, ALLEN S.** Chrome from Alaska. (Compressed air, Oct. 1956. v. 61, no. 10, p. 297–99, illus., map.)

Facilities and equipment of the "Star Four Mine," America's only high-grade chrome mine, are described. The mine located near the end of the Kenai Peninsula is worked from approximately July-Oct. Full capacity was reached in 1955 yielding 7067 tons. The ore content varies from 1 percent in the host rock up to 90 percent in isolated lenses.

Copy seen: DLC.

PARKER, HERSCHEL CLIFFORD, 1867-, see Browne, B. The conquest of Mt. McKinley. 1956. No. 44161.

47253. PARKER, ROBERT R., and W. KIRKNESS. Estimates of the population of spawning king salmon in the Taku River, Alaska, for the year 1951. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954. p. 179-91, diagr., tables, map.) 4 refs.

A mathematical study of the problem using counts of tagged fish and the socalled "intuitive formula." A population of 55,000-60,000 is estimated to have been present in the Taku estuary at the time of the investigation, of which the fishery removed a maximum of 18 percent. Copy seen: DGS.

PARKER, ROBERT R., see also Kirkness, W., and R. R. Parker. An age analysis . . Taku River . . . salmon . . . 1956. No. 45992.

47254. PARKES, ALAN STERLING, 1900- . The freezing of living cells. (Scientific American, June 1956. v. 194,

no. 6, p. 105-114, illus.)

Describes experiments in freezing fowl and cattle sperm and human red blood cells, making possible long-term storage and preservation of such cells; also the freezing and subsequent successful revival of rats and a hamster.

Copy seen: DGS.

PARKES, ALAN STERLING, 47255. 1900- . Grafting of mouse ovarian tissue after freezing and thawing. (Journal of endocrinology, Nov. 1956. v. 14, no. 3, p. xxx-xxxi.) ref.

Report on experiments with miceovaries autografted subcutaneously after freezing to -79° C. and thawing. Freezing in 15 percent glycerol horse serum did not significantly change the proportion of grafts taking or the duration of their activity, as compared with controls; on the other hand freezing in glycerol saline was very damaging, and no grafts were obtained from tissue frozen for one day. Copy seen: DNLM.

PARKES, ALAN STERLING, 47256. 1900- . Preservation of living cells at low temperature. (Lectures on the scientific basis of medicine, 1952-53. v. 2, p. 250-62, illus. tables.) 31 refs.

A review of recent research into freezing and thawing of cells, mainly of mammals, and their storage at low temperatures. Freezing and survival of spermatozoa from different animals in various solutions, behavior of erythrocytes, fertilized ova, endocrine tissue, testis, etc., under similar conditions and microscopical observations on freezing are also discussed. Copy seen: DNLM.

47257. PARKHOMENKO, S. G. Zamerzanie pochv i rykhlykh gornykh porod. (In: Akademifa nauk SSSR. Institut merzlotovedenia. Materialy k osnovam uchenifa o merzlykh zonakh zemnol kory, 1956. vyp. 3, p. 40-84,

illus., graphs, tables.) 51 refs. Text in Russian. Title tr.: Freezing of soils

and porous rocks.

The effects of the water phase on processes in ground freezing are analyzed, and investigations since 1861 related to the problem are reviewed in detail. Water in the solid state is considered the most important for permafrostology because the maximum variations in frozen ground structure occur with the freezing of gravitational, capillary, and hygroscopic water. These transformations also cause different thermal effects, water migration, microseismic oscillations, and changes in ground volume. A study of freezing and thawing processes in rock formations in soil was conducted in Yakutia with special attention to volumetric variation of the ground (swelling), the magnitude and periodicity of which are shown on graphs (p. 48). Conditions of the molecular layer of hygroscopic water and its solutions are outlined and pressure within a monomolecular layer is estimated of order 100,000 kg./cm.2 Freezing of hygroscopic water within a porous clay, was not obtained even at temperature -78° C. Theoretical considerations, illustrated with a phase transformation diagram (p. 59), are given in discussion of the mechanism of crystallization soil and rock solution. Data on basic points of equilibrium of water and five forms of ice are presented in table (p. 60). Major points of the discussion are summarized in conclusion (p. 78-81).

Copy seen: DLC.

PARKINS, WILLIAM MILTON, 1907-, see Ben, M., and others. Hepatic hypothermia and arterialization . . . 1956. No. 43949.

PARKINS, WILLIAM MILTON, 1907-, see also Jensen, J. M., and others. Possibilities . . . differential brain cooling . . . dogs. 1956. No. 45787.

PARMELEE, DAVID F., see Sutton, G. M., and D. F. Parmelee. Breeding . . . snowy owl . . . Baffin Island. 1956. No. 48270.

PARMELEE, DAVID F., see also Sutton, G. M., and D. F. Parmelee. On . . . charadriiform birds of Baffin Island. 1956. No. 48271.

PARMELEE, DAVID F., see also Sutton, G. M., and D. F. Parmelee. On the loons of Baffin Island. 1956. No. 48272.

PARMELEE, DAVID F., see also Sutton, G. M., and D. F. Parmelee. The rock ptarmigan . . . Baffin Island. 1956. No. 48273.

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PARMELEE, DAVID F., see also Sutton, G. M., and D. F. Parmelee. The roughlegged hawk . . . 1956. No. 48274.

47258. PARMUZIN,  $\widehat{\mathbb{IU}}$ . P. Za almazami na samolete. ( $\widehat{\mathbb{IU}}$ nyl naturalist, Dec. 1956, no. 9, p. 23.) Text in Russian. *Title tr.*: Prospecting for diamonds by airplane.

Popular account of geological exploration of the Central Siberian taiga from the air, and of characteristics of the landscape which contributed to discovery of diamantiferous fields (in Yakutia?). Copy seen: DLC.

PARMUZIN, ÎU. P., see also P., Z. Fiziko-geograficheskoe rafonirovanie severa . . . 1956. No. 47220.

PAROLA, PIERLUIGI, and others. Studi sulle possibilità di ridurre il consumo tessutale di ossigeno nei mammiferi, 2; saggio sperimentale sul cane dei vari trattamenti suggeriti per provocare (Minerva anestesiologica, l'ipotermia. Oct. 1955. anno 21, no. 10, p. 251-55, illus.) 27 refs. Text in Italian. Sum-Other authors: G. mary in English. Damia, A. Bencini, and G. Tiberio. Title tr.: Studies on the possibility of reducing tissue oxygen consumption in mammals, 2; experimental investigations in dogs on the various methods proposed for producing hypothermia.

Contains a study of the course of body temperature during cooling with and without the aid of drugs, and during rewarming. Some experiments were performed with extracorporeal circulation. Deep narcosis with cooling is considered the best method for dogs; the merit of extracorporeal cooling is also discussed.

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PAROLA, PIERLUIGI, see also Bencini, A., and others. Studi . . ridurre il consumo tessutale di ossigeno . . . ratto trattamenti . . . ipotermia. 1955. No. 43950.

PAROLA, PIERLUIGI, see also Damia, G., and others. Studi . . ridurre il consumo tessutale di ossigeno . . . 3 . . . temperatura . . organi . . . 1955. No. 44537.

47260. PAROVSHCHIKOV, V. A. Zametki o rasprostranenii nekotorykh mlekopita@shehikh v Arkhangel'skof oblasti. (Zoologicheskii zhurnal, Nov. 1956. t. 35, vyp. 11, p. 1738–41, 2 text maps.) Text in Russian. *Title tr.:* Notes on the distribution of some mammals in Arkhangel'sk province.

Local distribution (cf. maps), habits, frequency and measurements of 13 small mammals are given. They are the common hedgehog (Erinaceus europaeus), five varieties of shrews (Sorex), chipmunk (Tamias sibiricus striatus), field mice, black rat, (R. r. rattus), forest and Ob' lemmings (Myopus s. schistocolor and Lemmus o. obensis) and the pied lemming (Discrostonyx t. torquatus).

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47261. PARRISH, B. B. The cod, haddock and hake. (*In*: Graham, M. Sea fisheries, 1956, p. 251–331, illus., tables, maps.)

A comprehensive study of the biology and fishery of the three species, the first two of them caught largely in subarctic and arctic waters. Information is presented on the stocks and their distribution, including commercial statistics, research, overfishing, distribution and biology of the three species, character of stocks. Studies of the stocks deal with: age- and life history; spawning, seasons and shoals; early development; demersal stage; growth and growth analysis; recruitment to stock; fishery and landings; other aspects of recruitment; calculation of mortality. Copy seen: DLC.

47262. PARSHLEY, MARY STEARNS, 1912-, and R. A. DETERLING. Tissue culture studies of blood vessel grafts, 2; the effect of storage at low temperatures on growth in vitro of adult dog aorta. (American journal of anatomy, Nov. 1955, v. 97, no. 3, p. 359-89, illus., table) 63 refs.

Contains a study of outgrowth in tissue culture from aorta sections frozen in 10 percent serum or dextrose at -72° C. and stored in a CO<sub>2</sub> chest at about -70° C., as compared with similar sections planted immediately or after storage at 4° C. Some cells and explants survived freezing and thawing and there was an increased lag period as compared with that of fresh tissue. Storage at -70° C. also caused a significantly greater loss of viability than at 4° C. Part 1 of this study deals with the

cultivation of similar, but not frozen, tissue. Copy seen: DNLM.

47263. PARTANSKIĬ, M. M. Klimaticheskie usloviâ russkof chasti o. Sakhalina. (Geograficheskoe obshchestvo. Vladivostokskif otdel. Zapiski, 1929. t. 3 (20), vyp. 2, p. 117–64, tables.) Text in Russian. *Title tr:* Climatic conditions of the Russian part of Sakhalin Island.

Climate of the northern part of the island is described, particularly on the shores of Sea of Okhotsk, with tabulation of lowest, highest and average values of air and ground temperatures, snow cover, humidity, precipitation and wind velocity. Plant and animal life is sketched and seasonal variations tabulated for specific localities.

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47264. PARUNAKAN, É. K. Vyrashchivanie ogurfsov v teplifsakh Zapollār'fā. (Sad i ogorod, Jan. 1956, no. 1, p. 27–29, illus.) Text in Russian. *Title tr:* Growing eucumbers in greenhouses above the Arctic Circle.

Describes successful cucumber growing on the state farm Tsentral'nyy at 67° N. in Komi A. S. S. R.: greenhouse construction, heating systems, selection of seeds, seeding and planting, fertilizing, foliar feeding (by hand and bees), etc.; yield average 14.8 kg./sq. m. of bed in 1954. Mean summer air temperature of the area is 11.1° C. The farm supplies vegetables to Vorkuta. Copy seen: DLC.

PASCHKIS, KARL ERNST, 1896—, see Stevens, C. E., and others. The response of the pituitary-thyroid system . . . 1956. No. 48203.

47265. PASECHNIK, P. P. Opyt poluchenia 500 & kormovykh korneplodov s gektara v Magadanskof oblasti. (Akademia nauk SSSR. Akutskif filial, Yakutsk. Institut biologii. Trudy, 1955. vyp. 1, p. 95–102, table.) Text in Russian. Title tr.: Attempt to obtain 500 cwt. root feed per hectare in the Magadan Province.

Account of cultivation of turnip for cattle on Kolyma farms. Periods of sowing and planting, methods of planting, manuring and soil preparation, also treatment of seed are described. Irrigation, pests and their control are reported, with some discussion of the food value of roots and leaves, also the growth period.

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47266. PASETŠKIĬ, VASILIĬ MIKHAĬ-LOVICH. Villem Barentŝ. Moskva, Gos. izd-vo geogr. lit-ry, 1956. 40 p. illus., port., map. 4 refs. Text in Russian. Title tr.: Willem Barendsz.

Brief biography of the great Dutch seafarer and explorer, Willem Barendsz, 1550(?)-1597; and description of his three voyages to Novaya Zemlya and the Kara Sea in 1594, 1595 and 1596-97 in an attempt to find a northern sea route from Europe to China. Hardships suffered by the third expedition during the wintering on Novaya Zemlya, heroic death of Barendsz, and assistance rendered to survivors by Russian Pomors are stressed. Based chiefly on Gerrit de Veer's Diarium nauticum, 1598. Copy seen: DLC.

PASETSKIĬ, VASILIĬ MIKHAĬLO-VICH, ed., see also Pakhtusov, P. K., and S. A. Moiseev. Dnevnye zapiski . . . 1956. No. 47229.

PASILIS, J. F., see U. S. Air Force. Air Weather Service. Studies . . . forecasting; Coral Harbor . . . 1944. No. 48524.

47267. PASIŪTIN, K. F. Russkie pisateli o Ākutii. (*In*: Akademiā nauk SSSR. Ākutskiī filial. Institut fāzyka, literatury i istorii. Vedushchaā rol' russkogo naroda . . , 1955. p. 231–43.) 26 refs. Text in Russian. *Title tr.*: Russian writers on Yakutia.

Enumerates Russian writers of the 19th century (mainly political exiles) and those of the 20th century who have written about Yakutia, and describes some of their works. Copy seen: DLC.

47268. PASTUKH, V. P. Radiolokatsifa v meteorologicheskikh issledovanifakh. (Meteorologifa i gidrologifa, 1946, no. 4, p. 78–79.) Text in Russian. Title tr.: Radar and meteorological investigations.

Notes on utilization of the radar principles applied during the World War II, for location and identification of remote objects: aircraft, ships, icebergs, configuration of land, cloud formations, and their boundaries, distant zones of precipitation (rain, hail, snow) altitude and temperature of inversional layers of the stratosphere and probably troposphere, approaching meteorites and other cosmic bodies.

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47269. PATCH, CLYDE LOUIS, 1887— Further northern records of the wood-frog. (Copeia, Sept. 15, 1949, no. 3, p. 233.) Records of the finding and measurements of a few specimens of Rana sylvatica cantabrigensis collected in the Mackenzie delta (67°48′ N. 134°44′ W.) at Beech Bay, Churchill, Manitoba and the Koksoak River in northern Quebec, supplements No. 47270.

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47270. PATCH, CLYDE LOUIS, 1887—. Northern records of the wood-frog. (Copeia, 26 Dec. 1939, no. 4, p. 235.) 4 refs.

The northern boundary of Rana sylvatica is outlined from west to east by specimens from following localities: Carmacks, Yukon Territory; Fort Resolution on Great Slave Lake, Mackenzie District; northern Manitoba and James Bay region. Table of measurements of specimens from various localities (Yukon to Nova Scotia) is added.

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47271. PATERSON, STEN STURE. Anthropogeographical studies among the Jokkmokk mountain Lapps. Göteborg, 1956. 64 p. 17 illus., 2 graphs, diagr., 4 text maps. (Göteborgs k. vetenskapsoch vitterhets- samhälle. Handlingar, 6. följden, ser. A, bd. 6, no. 2) 38 refs.

Study of change in economic and connected social forms among these Lapps, with innovations from Swedish culture, stronger both numerically and technically. Based on field work in summers of 1943-1945. Physical conditions in Jokkmokk parish, its reindeer ranges, kinds, development and present handling of the animals, work in the camps, and future of herding are considered in turn. Natural conditions in Jokkmokk parish (approx. 67° N. 20° E., and some 19,744 km.2 in area.) determined natives' dependence on reindeer breeding, and have favored its The change from intensive success. (year-round) to extensive husbandry, introduced by Karesuando Lapps, is explained and related to border policies of Russia, Sweden, and Norway, 1852-1923. The ensuing change from the selfsubsistent Lapp household, the development of permanent camps and facilities along migration routes, regulations for pasturage, and variations in the patterns of reindeer migration are discussed. Individual camp sites in Jokkmokk are The most important factors described. in modern changes have been increased communications facilities and population The effects of penetrating numbers.

Swedish culture are considered, as are age and sex distribution of the Lapps, birth and death rates, and the probable future of the Lapp race and culture.

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47272. PATERSON, W. S. B., and C. G. M. SLESSER. Trigonometrical levelling across the inland ice in North Greenland. (Empire survey review, Apr. 1956. v. 13, no. 100, p. 252–61, diagrs.) 2 refs.

Contains general results of a program carried out by the British North Greenland Expedition (1952-54) between 76°40' N. and 78°10' N. The methods of measurement and sources of error are The survey, over discussed in detail. two summers, resulted in a height difference at the terminating station of 13.8 m., altitude calculated from the east coast being greater. The standard error of the altitudes is approximated at 3.8 m. The unexpected large closure error cannot be explained. Copy seen: DLC.

47273. PATON, JAMES. The observation of aurora. (In: International Council of Scientific Unions. Eighth report of the Commission for the Study of Solar and Terrestrial Relationships, 1954. p. 157–67.) 33 refs.

The observation of auroral forms by usual, photographic, photometric, radio and spectrographic methods is discussed. One of the most important problems in this area is the study of the geographical distribution of aurora, and for that, only visual observations by an extensive network of trained observers are adequate. The problems of recording and representing data obtained are discussed.

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PATTERSON, PAUL R., see Boyle, R. W., and others. Geochemical investigation . . . Galena Hill-Mount Haldane . . . 1956. No. 44111.

47274. PATTLE, R. E., and others. The effects of a cold environment and of ammonia on the toxicity of sulphuric acid mist to guinea pigs. (Journal of pathology and bacteriology, July 1956. v. 72, no. 1, p. 219–32, illus., tables) 7 refs. Other authors: F. Burgess and H. Cullumbine.

Animals exposed to sulphuric acid mist at 0° C. showed a better survival rate than similar animals at room temperature. This difference "is considered to

represent a direct action of the cold on the animals." Copy seen: DNLM.

47275. PATTON, W. J. H. Mississippian succession in South Nahanni River area, Northwest Territories. (American Association of Petroleum Geologists. Bulletin, Feb. 1956. v. 40, no. 2, p. 418-19.)

Contains abstract of paper presented at the Western Canada regional meeting of the Association, Jasper, Alberta, Sept. 14-17, 1955. A thick section of Mississippian rocks is exposed in the LaBiche Range of the Mackenzie Mts. near South Nahanni River (61°03' N. 123°22' W.). Rocks of Kinderhook, Osage, Meramec, and Chester ages are present. Fossil plants, Stigmaria sp. and Leipdodendron sp., and coal were found in sandstones below the Meramecian Spirifer cf. pellaensis zone. Microspores from the coal indicate a Lower Carboniferous or Mississippian flora. Copy seen: DGS.

47276. PATTON, WILLIAM WALLACE, 1923—, and R. S. BICKEL. Geologic map and structure sections along part of the lower Yukon River, Alaska. Washington, D. C. 1956. Map sheet 34 x 44½ in., incl. 2 maps, cross-sections. (U. S. Geological Survey. Miscellaneous geologic investigations, Map I-197.) Ref.

Results of stratigraphic and structural studies in July-Aug. 1954 in the southern Koyukuk Cretaceous basin. Map (scale 1:200,000), with explanatory notes, covers area from Ruby to Kaltag (approx. 64°30'-45' N. 155°-159° W.). The two sequences of Cretaceous sedimentary rocks have been subdivided, the border facies into two and interior facies into three mappable units, described in the notes. Structure sections show the folding and faulting that have greatly complicated the structure in the area. Sections also indicate types of fossils collected and show localities. Copy seen: DGS.

47277. PATTON, WILLIAM WALLACE, 1923—, and R. S. BICKEL. Geologic map and structure sections of the Shaktolik River area, Alaska. Washington, D. C., 1956. Map sheet 32 x 48 in., incl. 2 maps, cross-sections. (U. S. Geological Survey. Miscellaneous geologic investigations, Map I-226.) Ref.

Results of stratigraphic and structural studies in June 1954 in the southern Koyukuk Cretaceous basin. Map (scale 1:80,000), with explanatory notes, covers the area approx. 64°20′-47′ N. 159°30′-160°45′ W. in the Norton Sound region, including Ungalik River basin. Two sequences of Cretaceous sedimentary rocks were recognized, the border and interior facies, and each tentatively subdivided into two mappable units, described in the explanation. Structure sections show folds and faults of the region.

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PATTON, WILLIAM WALLACE, 1923-, see also Gryc, G., and others. Mesozoic sequence in Colville River region . . . 1966. No. 45325.

47278. PATTULLO, JUNE G. Seasonal changes in sea level. (U. S. Office of Naval Research. Research reviews, Nov. 1956. p. 19–24, diagrs.)

Contains general description of world sea-level variations throughout the year. Data in the Northern Hemisphere show a maximum height in Sept. between equator and 45° N. lat. and a maximum in Dec. north of 45° N. lat. North of 45° N., temperature changes are not large enough to explain the observed variations in height, and salinity observations are too scarce. The effect of atmospheric pressure on sea-level variation is observable but not generally large. It is most important around Japan, China, and Greenland.

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47279. PAULS, FRANK P. Blood factor studies of the Eskimos and Indians of western Alaska, II, summary. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 120.)

Summary of preliminary data on 655 specimens, together with those reported in No. 31201–31202, representing a study of 5,855 specimens. ABO, Rh and M-N frequencies were determined in native and mixed groups, the underlying genetic factors are analyzed and the problems of racial mixing discussed.

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47280. PAULSON, IVAR. Untersuchungen über die primitiven Seelenvorstellungen mit besonderer Rücksicht auf Nordeurasien; ein vorläufiger Forschungsbericht. (Ethnos, 1956. v. 21, no. 1-2, p. 147-57.) 10 refs. Text in German. Title tr.: Investigations of the primitive soul conceptions with special attention to northern Eurasia; a preliminary report.

Discusses the plurality in soul conception: the so-called "free" or "psyche" soul, and a "body" or "life" soul, the latter conceived by some peoples as a "life" soul and an "ego" soul. The concept of "life" soul also includes the "dream" and the "breath" souls, while the "ego" soul may include certain spiritual attributes linked to specific soul centers in body organs (heart, liver, lungs, etc.). The dual concept of "psyche" and "life" souls is prevalent among the Lapps, Finns, Zyryans, Voguls, Ostyaks, Tawgis-Samoyeds, Yeniseians, Tungus, Golds, Yukaghirs, Chukchis, Koryaks, Kamchadals, Gilyaks, etc. The "psyche", "life" and "ego" souls are found among the Ostyak-Samoyeds, Yurak- and Yenisey-Samoyeds, Yakuts, Lamut-Tungus, etc. Copy seen: DLC.

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47281. PAULY, HANS. Bøggildite, a new phosphate-fluoride from Ivigtut, south Greenland. København, C. A. Reitzel, 1956. 15 p. 2 illus. (1 col.), tables. (Meddelelser om Grønland. bd. 137, nr. 6.) 6 refs. Also pub. as: Greenland. Geologiske undersøgelse. Bulletin, no. 14.

This new mineral was discovered by Bøgvad (Arctic Bibliography, No. 20773) in 1950 in the boundary rock of the cryolite mass in the quarry at Ivigtut (61°12′ N. 48°16′ W.). Author made further investigation on Bøgvad's specimens as no more of the mineral has been found. "It is monoclinic, X-ray examinations showing that it is pseudorhombic, belonging to space group No. 14 P 2 1/c. It appears in columnar aggregates up to 12 mm. long and some millimeters wide; it is salmon-colored. Bøggildite is colorless under the microscope;  $\alpha$ ,  $\beta$ ,  $\gamma$  are respectively 1.462, 1.466, and 1.469. 2 V lies between 78 and 80°. Axial dispersion can hardly be seen. The composition of the mineral corresponds to the formula Na2Sr2Al2(PO4)F9. It may be grouped together with the mineral known from Ivigtut, jarlite."-From Author's ab-Copy seen: DGS. stract.

47282. PAVLOVSKIĬ, NIKOLAĬ NIKO-LAEVICH. Sobranie sochineniĭ, t. 1. Moskva, Izd-vo Akademii nauk SSSR, 1955. 547 p. diagrs., graphs. Text in Russian. *Title tr.:* Collected works, v. 1.

Includes (p. 433-43) Neravnomernoe dvizhenie v estestvennykh vodotokakh (Non-uniform flow in natural water channels.) first pub. in 1936. Writer analyzes mathematically, the factors influencing the change in velocity of flow, with emphasis on effects of ice cover and

its roughness. A basic equation for uniform flow is presented with consideration of the resistance (roughness) of the channel walls and ice cover. This equation is modified for determination of modulus of channel resistance with above roughness factors and mean rate of turbulent flow. The general form of this equation is given as a function (o) of channel depths (z) and can be used for water flow with, also without, ice cover. Analysis of this equation is extended to cases of "transient condition" in which the rate of flow under ice cover either is increased by inflow of ground water and tributary streams, or reduced by a side outflow.

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47283. PAYN, STEPHEN B. Hypothermia following reserpine. (American journal of psychiatry, Feb. 1956. v. 112, no. 8, p. 657, illus.) 2 refs.

Contains case report of a woman, age 67, with diabetes and decompensated hypertensive cardiovascular disease, who developed hypothermia and symptoms of collapse, following administration of reserpine. The drug is known to develop hypothermia in animals, but not in man.

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PAYNE, THOMAS GIBSON, 1915—, see Barnes, F. F., and T. G. Payne. The Wishbone Hill district, Matanuska coal field... 1956. No. 43882.

PAYNTER, HENRY MARTYN, 1923-, see Aldrich, H. P. Frost penetration . . . highway and airfield . . . 1956. No. 43560.

47284. PCHELINTSEV, A. M. O kasatel'nykh naprfazheniâkh na bokovof poverkhnosti fundamenta, obuslovlennykh profsessom ottaivaniâ grunta. (In: Akademiâ nauk SSSR. Institut merzlotovedeniâ. Materialy k osnovam ucheniâ o merzlykh zonakh zemnol kory, 1956. vyp. 3, p. 163-66, illus.) Text in Russian. Title tr.: Tangential stresses along lateral surfaces of foundations caused by ground thawing.

Experiments conducted to determine stresses developed on a foundation at thawing of frozen ground are described in detail. A pipe with water representing a foundation is placed in frozen ground and connected with the dynamometer. Frozen water is melted by an electric heater and increasing vertical forces are measured by the dynamometer. These forces would increase for soils thawing

under natural conditions where gradual thawing causes increased cohesion between the ground and foundation because some compaction of the upper ground layers occurs during the time required to thaw to deeper strata. 

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47285. PEACOCK, F. W. The Moravian Mission in Labrador. (Royal Canadian Mounted Police quarterly, Oct. 1956. v.

22, No. 2, p. 100-105, 3 illus.)

Historical sketch: from the first (unsuccessful) trading-missionary voyage to Davis Inlet in 1752, and first mission station at Nain in 1771, to the present. The Brethren's medical, economic, and educational work with the Eskimos of northern Labrador is described.

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47286. PEACOCK, J. D. The geology of Dronning Louise Land, N. E. Greenland. København, C. A. Reitzel, 1956. 38 p. illus., 2 maps (1 fold.), diagrs., cross-sections (Meddelelser om Grønland. bd.

137, nr. 7.) 10 refs.

Contains results of field work by the author and others in the region 76°-77°30′ N. 23°-26°30′ W. during the British North Greenland Expedition, 1952–1954. Topography is briefly described; then, in more detail, the stratigraphy (Precambrian) and structure of the region, with brief discussion of the relationship between the sediments and metamorphic rocks, and a comparison of the geology of this and other parts of northeast Greenland.

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PEACOCK, J. D., see also Hamilton, R. A. and others. British North Greenland Expedition, 1952-4 . . . results. 1956. No. 45412.

PEACOCK, LELON J., see Newton, J. M., and L. J. Peacock. The effects of auxiliary . . . heat . . . dexterity . . . cold. 1957. No. 47003.

**PEAKALL, D. B.,** see Acland, C. M., and others. Fågelobservationer . . . 1956. No. 43485.

47287. PEARSON, HANK. How Raber & Kief drilled 900 holes in permafrost in the Arctic in midwinter. (Pacific builder and engineer, Nov. 1956. v. 62, no. 11, p. 58-59, illus.)

Contains description of drilling operation on a military construction job at Kotzebue, Alaska. The unit used to drill holes for piling was a Williams LDH-40 earth-boring machine powered by a 501-cu.in,-engine and provided with an Alaskaug 18- and 24-in. carbidetipped, hollow-point bit. The speed of 15 ft./min. used in permafrost was activated hydraulically. The machine was mounted on a wiggle-tail base equipped with facilities which permitted the operator to rotate the unit across the rear of the vehicle a distance of four ft. to either side of the longitudinal center line and to extend and retreat it horizontally over a distance of two ft. As many as 22 holes, 20 ft. deep and 24 in. wide, were drilled in 10 hr. The bit lasted through the drilling of 110 holes. Copy seen: DLC.

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47288. PEDERSEN, ALWIN, 1899—. Begegnungen mit Moschusochsen. (Kosmos, Jan. 1956. 52 Jahrg. Heft 1, p. 16–20, illus., map.) Text in German. Title tr.: Encounters with musk oxen.

Contains information on the distribution of this animal during the (last) glacial period and at present (cf. map); its races and estimated numbers, behavior during encounter with humans, defense, social habits, life the year round, food, propagation, effects of climatic change, etc.

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47289. PEDERSEN, ALWIN, 1899—. Om moskusoksen og rensdyret på Grønland. (Naturens verden, København, 1953. årg. 37, hefte 7–8, p. 240–46). Refs. in text. Text in Danish. *Title tr.*: On the musk ox and reindeer in Greenland.

Takes issue with statements of Jennov q. v. The actual number of musk ox on Greenland is unknown; a count could be made most accurately late in the summer grazing season by aerial photography. Overgrazing of the vegetative area is questioned. Winter ice over the food supply, as in 1938-39, causes decrease in number but not decimation of the herds. Migrations of both musk oxen and reindeer are discussed. The musk ox habitat was probably not limited by the Eskimos of East Greenland as Jennov believes, nor the numbers greatly reduced until hunting became commercialized. Copy seen: DLC.

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47290. PEDERSEN, ALWIN, 1899—. Rosmarus, en beretning om hvalrossens liv og historie. København, Gyldendal, 1951. 98 p. illus., plates. Text in Danish. Title tr.: Rosmarine, an account of the walrus' life and history.

Walrus hunting and trade are described from early times to the present, based in part on the writer's hunting experience, largely on east and west coasts of northern Greenland. Commercial value of the tusks has been a factor, from the 13th century, in interest in the Arctic; and in the early 17th century nearly a thousand walrus were killed yearly for their tusks. The Atlantic form is found from Baffin Bay to the Kara Sea, and the Pacific form in the Bering Strait and north Siberian waters. Present population of each is estimated at slightly over a thousand. Protected areas are recommended in native habitats where warm waters enter the Arctic and keep the sea surface open all winter. Walrus life and its place in the arctic animal world are discussed, and extensively illus. with photographs. Copy seen: DLC.

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47291. PEDERSEN, ALWIN, 1899—. Storie di trichechi. (Vie del mondo, Feb. 1956. anno. 18, no. 2, p. 205–212, 6 illus.) Text in Italian. *Title tr.:* Stories about walrus.

Walrus behavior, social life and food, movement on land and in the water is described; also a walrus hunt by Eskimos. Anecdotes of polar bears and walrus, walrus species, geographic distribution, etc., are given. Based on writer's experience in Greenland; a few good photographs are included. *Copy seen:* DLC.

47292. PEDERSEN, EINAR SVERRE. Handelsluftfahrt in der Arktis. (Polarforschung, 1954, pub. 1956. Bd. 3, Heft 1–2, Jahrg. 24, p. 301–304.) Text in German. Title tr.: Commercial flying in the Arctic.

Contains description of Scandinavian Airline System polar flights and typical problems connected with them.

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47293. PÉGUY, CHARLES PIERRE, and J. CORBEL. Chronique arctique. (Norois, July-Sept. 1956. Année 3, no. 11, p. 343-55) 47 refs. Text in French. Title tr.: Arctic chronicle.

A survey of recent events and activities in Alaska, Canada, Greenland, and Iceland, based on current publications. Deals briefly with plans for the International Geophysical Year; the tenth anniversary of the Arctic Institute of North America; Alaskan Science Conferences; Juneau Ice Field Research Project; Alaskan population and labor problems; meteorological stations in the Canadian

Arctic Islands; Ellesmere Ice Shelf Expeditions of 1953 and 1954; Canadian studies of sea ice and pingoes; relocation of Aklavik; the Aleut, Eskimo, and Indian populations, their present economic conditions, effects of contact with whites; glaciological research in Greenland by Expéditions polaires françaises; possible effect of transpolar air routes on Greenland, tourism. Copy seen: DLC.

47294. PEHRSON, ROBERT NIEL, 1926–1955. The Lappish herding leader; a structural analysis. (American anthropologist. Dec. 1954. v. 56, no. 6, pt. 1, p. 1076–80, table, graph.) 6 refs.

Discusses the problem of leader selection among the Könkämä Lapps of Karesuando parish, Sweden, and suggests the bilateral (father's and mother's line) descent tradition as one of its primary factors. Age, maturity and procreative ability, though not wealth, seem to be also of importance. Statistical data (1952) on population as well as number and size of summer and winter migratory groups are given. Copy seen: DLC.

47295. PEHRSON, ROBERT NIEL, 1926–1955. Reindeer herding among the Karesuando Lapps. (American-Scandinavian review, Dec. 1951. v. 39, no. 4, p. 271–79, illus.) 5 refs.

Popular account based on three anthropological field trips, Dec. 1948-Sept. 1949. The economic importance of the reindeer is stressed: it has enabled this group of Swedish Lapps to exploit their environment and maintain their culture as a functioning entity. Their migrations to summer and winter pastures cross a 180-mile stretch of country in Karesuando and Troms, Norway. individual and communal herding, use of dogs in herd management, reindeer branding, milking, castrating, slaughtering, etc. are discussed. Some Lappish techniques have been adopted by Finnish peasants. Copy seen: DLC.

47296. PĖK, A. V. K izucheniū tektoniki Khibinskogo massiva. (*In:* Fersman, A. E. Za poliārnym krugom, 1932. p. 18–22, illus.) Text in Russian. *Title tr.:* Investigation of the tectonics of the Khibiny massif.

A "tectonic party" of the Academy of Sciences' Kola Expedition, headed by F. fl. Levinson-Lessing and including the author, worked in the Kukisvumchorr and Yukspor mines and the vicinity, July 25-Sept. 25, 1932, studying intru-

sions, to determine the direction of tectonic forces. Without geological maps, no conclusive results were obtained (cf. No. 46333); the work is to be continued. **Copy seen:** SPRI; DLC (microfilm).

47297. PĖK, A. V. Nekotorye dannye po tektonike Khibinskogo raiona. (*In:* Khibinskie apatity, 1933. t. 6, p. 218–23, 4 diagrs.) Text in Russian. *Title tr.*:

Some data on the tectonics of the Khibiny

region.

Methods of study of dynamics of tectonic ore formation are discussed, based on collected observations, on mechanical deformation (fissures) in the intrusions of the Khibiny mountains. More or less definite regularities in distribution and concentrations of fissures are shown on four diagrams, corresponding to the tectonics of different mountains. sures are usually concentrated in two directions (NE. and NW.) at about a 90° angle. Knowledge of major crack distribution is essential for the structural characteristics and for rational mining of the deposit. Copy seen: DGS.

PEKAR, EDWARD L., see Boyle, R. W., and others. Geochemical investigation . . . Galena Hill-Mount Haldane . . . 1956. No. 44111.

47298. PELEVIN, V. Pisatel', puteshestvennik, uchenyi. (Znanie-sila, Nov. 1956. god 31, no. 11, p. 20-23, illus., port.) Text in Russian. *Title tr.:* Writer, trayeler, scholar.

Sketch of Vladimir Klavdievich Arsen'ev, 1872–1930, explorer of the Russian Far East: his style in writing and lecturing, personal appearance and behavior, his enthusiasm for the grandeur of nature, significance of his explorations.

Copy seen: DLC.

47299. PELTIER, Contre-Amiral. Une mer soviétique en extrême-orient. (Géographia, Nov. 1956. no. 62, p. 34-36, illus., text map.) Text in French. Title tr.: A Soviet sea in the Far East.

Contains a brief popular description of the Okhotsk Sea, its physical features, tides, marine fauna; particularly its role in economic development of the surrounding land areas; strategic importance of the region. Copy seen: DGS.

47300. PELTONEN, OSMO KALEVI. Vienan perhosfaunasta. (Suomen hyönteistieteellinen aikakauskirja, 1947. v. 13, no. 3, p. 131-44, text map.) 9 refs. Text in Finnish. Summary in German. Title tr.: On butterfly fauna of the Viena region.

Contains historical notes and a simple list of 219 large and 106 small butterflies native to the coastal parts of eastern Karelia along the White Sea (Vienanmeri), and to the Solovetskiye Islands (Solokka); based mostly on collections made by Finnish botanists in 1941–44.

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PENNELL, FRANCIS WHITTIER, 1886–1952, see Stair, L. D., and F. W. Pennell. A collection . . . plants . . . Yakutat . . . 1946. No. 48160.

47301. PENNER, EDWARD. Soil moisture movement during ice segregation. (National Research Council. Highway Research Board. Bulletin, 1956. no. 135, p. 109-118, illus., diagrs., graphs.) 10 refs.

Contains initial results of study of frost action processes by the Division of Building Research, National Research Council of Canada. Moisture flow to the freezing zone of small soil specimens (Leda clay, Whitehorse and Uranium City silts) was measured under controlled laboratory conditions. Where a free-water surface exists near but below the freezing zone, moisture flow is dependent on the unsaturated permeability and soil moisture tension characteristics. These properties integrate the effect of grain size structure, clay composition, and exchange ions. "Critical desaturation beneath the frost line in some soils appears to act as a barrier to liquid moisture transmission. Since in the heavier-textured soils, rapid moisture transmission continued to much higher tension values, greater heave rates are observed."-From author's abstract. Copy seen: DGS.

PENNEY, JAMES THEOPHILUS, 1900-, see Wilson, H. V. P., and J. T. Penney. A new variety . . . Rhabdocalyptus . . . 1930. No. 48978.

47302. PENNEYS, RAYMOND, and N. M. SMUKLER. Changes in the intraarticular temperature of the knee with cutaneous vaso-constriction and vasodilatation of the toes in normal subjects. (Annals of the rheumatic diseases, Sept. 1956. v. 15, no. 3, p. 241-45, illus., table.) 18 refs.

Report of experiments with seven young adults. Vasoconstriction of the toes' skin induced by body cooling was accompanied by intra-articular knee temperatures of 31 to 33.2° C. Skin temperatures of the knee were also measured and showed a better correlation with the joint temperature.

Copy seen: DNLM.

47303. PENNIE, A. M. Defence Research Northern Laboratory. (Canadian Army journal, Jan. 1956. v. 10, no. 1,

p. 47-54, illus.)

Activities of this station located at Fort Churchill are described. Its main purpose is to study the effects of the arctic environment on military personnel and equipment. The laboratory is staffed with civilian scientists who work with the military during field exercises, and make on-the-spot studies of problems under realistic conditions. Facilities are provided for visiting teams from the Canadian Defence Research Board's other (ten) stations, and from other Canadian, British and American agencies.

Copy seen: DLC.

47304. PENNIE, I. D., and D. G. ANDREW. Bird notes from Spitsbergen, summer 1955. (Stavanger Museum. Sterna, Dec. 1956. no. 27 (bd. 2, hefte 2) p. 49-63.) 8 refs.

Contains observations on 28 species of birds, chiefly waterfowl, their nests and nesting habits, made during a two-week stay in the neighborhood of Sassendalen.

Copy seen: MH-Z.

47305. PENNYCUICK, C. J. Observations on a colony of Brünnich's guillemot *Uria lomvia* in Spitsbergen. (Ibis, Jan. 1, 1956. v. 98, no. 1, p. 80-99, illus.) 18 refs.

The fledging period of a colony of about 500 pairs, was studied July 23—Aug. 20, 1954 (during the Sherborne Cambridge Spitsbergen Expedition, Dr. G. I. Wright, leader). Calls of adults and chicks, fights, behavior pattern of adults, young and non-breeding birds are noted. Flight characteristics and special techniques for landing and taking off from vertical cliffs are described. Predation was exceedingly low.

Copy seen: DLC.

PÉQUIGNOT, H., see Justin-Besançon, L., and others. Réfrigération . . . 1956. No. 45840.

PEREIRA, V. see Tender, B., and others. Modificações electrocardiográficas . . . 1955. No. 48357.

47306. PERELESHIN, SERGEĬ DMI-TRIEVICH. Osnovnye voprosy okhotnich'ego khozfālstva SSSR. [Moskva] Izd-vo Moskovskogo universiteta, 1956. 199 p. tables, diagrs. Over 120 refs. Text in Russian. *Title tr.:* Basic problems of the hunting industry in the U. S. S. R.

Outlines the history, economic importance, biological principles, and legal regulations of commercial hunting in U. S. S. R. generally, with remarks on hunting and trapping in the far North. A selected list of the Russian literature is added. The publication is reviewed unfavorably (as a "total waste": "bezuslovnyI brak") by A. Malinovskii in Okhota i okhotnich'e khoziātstvo, Nov. 1956, no. 11, p. 54-55.

Copy seen: DLC.

47307. PEREL'MAN, R. G. Atomnyl ledokol. (Nauka i zhizn', Apr. 1956. god 23, no. 4, p. 36, col. plate on front cover.) Text in Russian. Title tr.: Atom-powered ice-breaker.

Imaginary visit to an atom-powered Soviet ice-breaker operating along the Northern Sea Route. *Copy seen:* DLC.

47308. PEREPECHINA, E.A. Osnovnye printšipy tipizatšii paleozolskikh ugol'nykh mestorozhdenil. (Akademifa nauk SSSR. Laboratorifa geologii uglfa, Trudy, 1956, vyp. 5, Materialy vtorogo ugol'nogo geologicheskogo soveshchanifa, p. 65–82, tables.) 10 refs. Text in Russian. Title tr.: Basic principles of typification of the Paleozoic coal deposits.

Attempt at typication based on geomorphic and genetic classification of coal deposits. Characteristics of the Pechora, Taymyr, Tungusskiy (Yenisey, Noril'sk) deposits are included (p. 72). Conference discussion of the paper is summarized (p. 81-82).

\*\*Copy seen: DLC.\*\*

PERIA, G., see Navarra, S., and others. Vantaggi della ipotermizzazione . . . ipercapnia . . . 1956. No. 46962.

47309. PERROUD, PAUL. Geodesy and cartography in Inglefield Land. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, pub. 1954. p. 301-342, map, graphs, tables.)

Triangulation data obtained were used to construct a map of the Norcut Camp region (78°18′ N. 69°55′ W.) in scafe 1:20,000 on a simplified projection based with 78°15′ taken as the central parallel. Contours were drawn at 20-ft. elevations. In addition to astronomical fixes and

triangulations, points were established which can serve in the future as a base for other maps constructed from aerial photographs. The profiles obtained are graphed and lists of coordinates of principal and secondary summits are appended.

\*\*Copy seen: CaMAI.\*\*

47310. PERSECHINO, M. A. Portable shipboard deicer. (*In*: U. S. Naval Research Laboratory. Report of NRL progress, Oct. 1956. p. 8-15, illus.,

diagrs., tables.) ref.

Deicing of ships operating in arctic regions has long been a problem. Possible solution has been developed in the course of other work: Description is given of a portable shipboard deicer using a pair of phased valveless pulse jet engines 2.5 in. in diameter. The unit is easy-starting, lightweight, and capable of burning either diesel fuel oil or gasoline. The deicer has performed satisfactorily under tests over the temperature range from 95° F. to -32° F. A prototype unit is ready for arctic environmental tests.

Copy seen: DN-RL.

47311. PERVUKHINA, A. E. Solıânye istochniki Severnogo Krafa kak osnova dlıâ poiskov kamennol soli. Moskva-Leningrad, Izd-vo Akademii nauk SSSR, 1940. 76 p. tables, fold. map (Akademii nauk SSSR. Severnafa baza. Trudy, vyp. 5.) 121 refs. Text in Russian. Title tr.: Saline springs in the Northern Provinces as the basis of prospecting for salt deposits.

Contains description of 108 saline springs on the coasts of the White and Barents Seas and in the Severnaya Dvina, Onega, Kuloy, Mezen' and Pechora River basins, based in part on unpublished material in local archives. Geographical and geological location of the springs is mapped. Their former and present utilization for salt production is noted. The relation of saline springs to rock salt deposits is discussed and the most promising spots to search for salt deposits are indicated. Results of chemical analysis of the water of the main springs are tabulated (p. 40-73). Annotated list of literature (121 items) is included, also a list of springs with references to literature (p. 28-39, 74-76). ·An editorial foreword by A. Chernov stresses the practical importance of this work for prospecting salt deposits and the soundness of the author's conclusions. Copy seen: DLC. 47312. PESOLA, VILHO A. Uber die Vegetation der Moore und feuchten Wiesen im Norden Kuusamos und Südwesten Sallas in Nordfinnland. (Societas pro fauna et flora fennica: Acta, 1955, v. 72, no. 18, p. 1–25, 8 tables.) 14 refs. Text in German. Title tr.: On the vegetation of the moors and moist meadows in northern Kuusamo and southwestern Salla in northern Finland.

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This vegetation is studied in relation to the lime content of the substrates: 112 localities (listed) were sampled; geographic and ecological data on them are given. Vascular plants and a few cryptogams found are tabulated with data on their frequency in the investigated localities in various types of moors and meadows on different substrates (rich or poor in Ca). Copy seen: DSI.

47313. PETELIN, V. P. Mineralogicheskoe rafonirovanie Okhotskogo morâ. (Akademifâ nauk SSSR. Institut okeanologii, Trudy, 1955. t. 13, p. 30–39, illus., maps.) 3 refs. Text in Russian. *Title tr.:* Mineralogical zoning of the Okhotsk Sea.

An outline of the composition, distribution and origin of the macro-aleuritic fractions in the bottom deposits of this sea. Samples from 194 stations were utilized and an area of about 1.5 million km.² was mapped. Deposits of all kinds were studied, from sands to fine clay oozes.

\*\*Copy seen: DLC.\*\*

47314. PETERS, KARL. Variations-statistische Untersuchungen über das Auftreten von Vakuolen in den Nukleolen von Hühnerherzfibroblasten in vitro nach der Einwirkung von Röntgenstrahlen, Megaphen und Kälte. (Zeitschrift für Zellforschung und mikroskopische Anatomie, 1956. Bd. 44, Heft 1, p. 14–26, illus., table.) 40 refs. Text in German. Title tr.: Studies in variation statistics of the appearance of vacuoles in the nucleoles of chicken heart fibroblasts in vitro, following treatment with X-rays, megaphen and cold.

An investigation into the frequency of vacuoles and its relation to mitotic activity. Cold reduced mitotic frequency but increased the occurrence of vacuoles.

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47315. PETERSEN, BJÖRN. Some trends of speciation in the cold-adapted holaretic fauna. (Zoologiska bidrag från Uppsala, 1953–56. bd. 30, p. 233–314, 6 text maps, diagr., 8 tables.) 210 refs.

and ecology of about 40 sibling butterfly species, and their subdivision into subspecies. Distribution of butterflies found only in mountains or mires (tables 3-5, text map) is considered with similar cases of speciation in other taxonomic groups as birds, moths, Coleoptera, Odonata, etc. History of the environment, arctic fauna, mire fauna and complementary species are outlined. Some aspects of the history of butterfly fauna of the Scandinavian mountains are discussed with data on the speed of speciation and age of the species (tables 6-7). A parallel speciation in a number of species groups has occurred in the northern part of the Holarctic; it is much commoner among butterflies than, e. g. among The butterflies which are rebeetles. stricted to the mountains have come from three different areas: the Arctic, more southerly parts of Asia, and Central The species coming from the Europe. first two areas inhabit only the northern part of the mountain chain; those coming from Central Europe, the whole range or the southern part. Lepidopter fauna of all arctic regions in Europe, Asia and North America (see text maps) are dealt with, but emphasis is on that of northern Scandinavia.

Copy seen: DSI.

47316. PETERSEN, G. T. Development of new type track by Ordnance Corps. (*In*: U. S. Office of Ordnance Research. Interservice Vehicle Mobility Symposium, 18–20 Apr. 1955. v. 2,

Papers, p. 56-60.)

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Research and development are described leading to the full-scale testing of a space-link track (the Ground Hog) for travel over poor terrain. Tests in homogeneous soil showed a 55 percent gain in tractive effort over the closed-link track. Tests in Jan. 1954 at Kapuskasing, Ontario, in 26 in. of snow validated the It was recommended that superiority. a practical vehicle incorporating this principle be constructed in a half-toncargo capacity for travel over water, marshy terrain, muskeg, sand, snow, ice, Copy seen: DLC. or tundra.

47317. PETERSEN, HELGE, 1886—. Das Klima der Küsten von Grönland. (Handbuch der Klimatologie, 1935. Bd. 2, Teil K, p. 31–66, diagrs., tables, text maps.) 8 refs. Text in German. *Title tr.:* Climate of the Greenland coastal regions.

Contains data on the taxonomy, range, decology of about 40 sibling butterfly ulated data of pressure, temperature, precipitation, wind, cloudiness, seasonal trends, local influences, and foehns based on observations of some 17 Greenland coastal stations, some of which date back to 1875. An index of the stations, their location, altitude, and observed parameter. History of the environment, arctice

47318. PETERSEN, MARGRETHE. ABC-problemer: Danskundervisningen i Grønland. (Atuagagdliutit: Grønlandsposten, May 3, 1956. Ukiut 96-iat. nr. 9, p. 3-4, 11.) Text in Danish and Eskimo. Title tr.: ABC problems: the teaching of Danish in Greenland.

For teaching Danish to Greenlanders, a new experimental primer (Ridung-Schwaerter), based on 113 basic Danish words, has been used with considerable success in the elementary school at Holsteinsborg.

\*\*Copy seen: DLC.\*\*

47319. PETERSENS, L. af. På velociped genom vårt framtidsland, Neder-Kalix-Gällivare. (Svenska turistföreningen, Stockholm. Årsskrift, 1899, p. 251–87, 12 illus.) Text in Swedish. Title tr.: By velocipede through our land of the future, Neder-Kalix-Gällivare.

Account of a bicycle trip north from Gulf of Bothnia, in part along the Skröfälven valley road, Gällivare's only connection with the outside world before the railroad was built. General impressions are given of the geography, economy, and people; settlement has avoided low valleys with boglands, frost in the growing season, etc.

\*\*Copy seen: DGS.\*\*

PETERSON, MARTIN S., see USQM Food & Container Institute. Nutrition symposium. 1954. No. 48643.

47320. PETRI, BERNGARD ÉDUARD-OVICH, 1884— . Narodnoe iskusstvo v Sibiri; voprosy sobiraniâ i izucheniâ. Irkutsk, Irkutskoe otd-nie Sibgosizdata, 1923. 29 p. illus. 2 refs. Text in Russian. Titte tr.: Siberian native art; problems of collecting and study.

Explains advantages of public museums over private collections for preserving examples of native arts and crafts. Such objects, including those of Yakut, Ostyak, Koryak and Tungus origin, are disappearing, forced out of use by cheap industrial products. The importance of information on provenience and use of each item collected is stressed. Works of art most likely to remain static and conserve

native trends, e. g. religious pictures, ornaments, etc., are discussed and illus. Copy seen: DLC (microfilm).

47321. PETRI, BERNGARD ÉDUARD-OVICH, 1884- . Neoliticheskie nakhodki na beregu Balkala; predvaritel'noe soobshchenie o raskopkie stofanki "Ulan-Khada." (Akademifa nauk SSSR. Muzel antropologii i ėtnografii. Sbornik, 1916. t. 3, p. 113-32, illus., plates.) 6 refs. Text in Russian. Title tr.: Neolithic finds on the shore of Lake Baykal; a preliminary report on the excavation of the

"Ulan-Khada" site.

Reports author's summer 1913 excavations on the Ulan-Khada promontory near the Ol'khonskiye Vorota Strait (approx. 53° N. 107° E.). Eleven horizons of 20-30 cm. each, from depth 90 cm. down to about 4 m., were explored, but no dating attempted. The uninterrupted habitation of the site shows the evolution of neolithic artifacts from crude scrapers and flakes to polished nephrite hatchets; it should prove of help in the classification and eventual dating of Angara basin finds. The potsherds (none found on the lowest level) and the stone artifacts (arrow and spear heads, scrapers, borers, nuclei, saws, fishhooks, chisels, axes, sculptured fish, etc.) are described and illus. by drawings (20) and photographs (over 200). Copy seen: DLC.

47322. PETRI, BERNGARD ÉDUARD-OVICH, 1884- . Okhota i olenevodstvo u tuturskikh tungusov v svíazi s organnizatsiel okhotkhozfalstva. (Irkutsk. Universitet. Biologo-geograficheskil nauchno-issledovateľskiľ institut. vestifa, 1930. t. 5, vyp. 2, p. 3–103, illus., tables.) 6 refs. Text in Russian. *Title* tr: Hunting and reindeer-herding of the Tutura Tungus and the organization

of a hunting economy.

Reports the findings of the 1928/29 Tungusskafa ékspeditsifa sent to investigate the economic potentials of the Tutura district (approx. 54°-55° N. 106°-107° E.). The advantages of centralizing the Tungus population in this area, development of the squirrel trade, organization of reindeer- and cattle-herding kolkhozes, etc., are discussed. statistics (1851-1929) and statistical data (1928-29) on number of households, hunters, reindeer and cattle per camp are tabulated. The local fur and game animals are treated in turn, hunting or trapping methods described, and amount and value of the take in 1928/29 stated.

Local cults based on hunting, shamanism. reindeer herding, Tungus-Russian relations, etc., are dealt with.

Copy seen: DLC.

PETRÍAEV, P. A., see Shereshevskii, E. I., and P. A. Petríaev. Spravochnik okhotnika-poliarnika. 1949. No. 47940.

47323. PETRONIO, R., and others. Saggi di rapida degradazione termica dell'organismo animale. (Acta anaesthesiologica 1956. v. 7, no. 3, p. 225-38, illus.) 36 refs. Text in Italian. Summary in English. Other authors: G. de Rosa and C. Taccani. Title tr.: Studies on the rapid thermal degradation of the animal organism.

Account of investigation of a series of drugs with respect to their capacity to produce, alone or in combination, hypothermia in dogs exposed to cold. Ether was found to be the most effective of the anesthetics tested, Largactil the most potent ganglioplegic. Among the combinations, that of Fargan, Dolantin and Largactil was the most active.

Copy seen: DNLM.

47324. PETROV, A. Na Talmyre. (Okhota i okhotnich'e khozſalstvo, Mar. 1956, no. 3, p. 18-19, illus.) Text in Title tr.: In the Taymyr. Russian.

Describes activities of hunters at the collective farm "Novyy Put" in the Ust'-Yenisevsk region of Taymyr National District; in 1954, their catch was worth over a half million rubles; they have 7,000 fox traps. Economic importance of reindeer husbandry for the area is noted.

Copy seen: DLC.

PETROV, B. F., see Obruchev, S. V. Spravochnik puteshestvennika . . . 1949-50. No. 47123.

PETROV, I. G. Physical-47325. mechanical properties and thickness of the ice cover. Washington, D. C., 1956. 60 p. +17 illus., diagrs., graphs, 42 tables. (Somov, M. M. Observational data . . . drifting station 1950-1951, pt.

6; translated by David Kraus.)

Reports results of 13 series of measurements made by the drifting station North Pole-2 on the strength and thickness of sea ice of varying ages in the Arctic Basin north of Bering Strait, 1950-Methods of investigation and instruments used are described. Studies were also made on the salinity, density, and structure of the ice, and on snow and ice melting. Tabulated and graphed data include: the crushing, flexural, shearing, and impact strength of ice samples taken from various depths (down to 156 cm.) as well as their density and salinity; thickness variations of the ice and snow covers at various points; and melt and run-off rates for snow and ice.—From SIPRE.

Copy seen: CaMAI.

47326. PETROV, M. Ledokol'nyī flot. (Morskol flot, Nov. 1947. god 7, no. 11, p. 34-41, illus.) Text in Russian. Previously listed as No. 13428. Title tr.: Ice-breaker fleet.

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Reviews ice-breaker construction and growth of the Russian ice-breaker fleet from 1846 to 1950: the Ermak (10,000 hp.) built in England in 1898; two smaller vessels (1,200 hp.) the Valgach and Talmyr 1909, the former sunk in the Gulf of the Yenisey in 1918; during 1914-1918, 22 were built or purchased for convoy duty with transport vessels to and from Arkhangel'sk. Among these were the Sampo, Petr Velikit, TSar' Mikhail Fedorovich, Erl Gret (renamed the Litke), Litros' (Sadko) Il'ia Muromets, Koz'ma Knîaz' Pozharskii, Aleksandr Nevskit (Lenin) (all 3,000-7,000 hp.) and others. Six ice-breakers of 1,200-10,000 hp. were built for the port of Vladivostok: the Krasin, Mikula Selianinovich, etc. In the winter months of 1920-1925, 570 vessels made their way through the ice of the Gulf of Finland with aid of ice-Navigation to and from the breakers. Ob' and Yenisey estuaries was maintained by the ice-breakers Sedov, Malygin, Krasin, Cheliuskin, and Lenin for 46 transport vessels. The north Siberian route from the White Sea to Bering Strait opened in 1932 was serviced by the Sibiriakov with the general support of new polar stations along the route. Expeditions to the Ob', Yenisey, Lena, Kolyma, Yana, etc., were continued during the following years. Regular communication by passenger ships and oil tankers, with reinforced hulls (the Sever, Nenets, (Ukagir) was established in 1935 between Murmansk and Vladivostok with assistance of the ice-breaker-tugboats IAkutita, Levanevskit, Vodop'tanov, and The Stalin and Dezhnev com-Molotov. pleted in 1938 joined the northern icebreaker fleet. The large ice-breakers, Kaganovich and Mikoûan, were built at Nikolaev in 1939 and 1941. Three basic designs for arctic service are proposed for construction in 1946-1950, with various types of propulsion mechanism: turboelectric, diesel-electric and diesel or turbine with hydraulic transmission. The navigation season is considerably extended with a fleet of powerful new icebreakers, and danger of transport ships wintering in the ice is appreciably reduced. **Copy seen:** DLC.

47327. PETROV, M. Ledovye povrezhdeniâ sudov i bor'ba s nimi. (Morskol flot, Oct. 1950. god 10, no. 10, p. 34–37.) Text in Russian. *Title tr.:* Ice damage to ships and its prevention.

Various types of damage to a vessel going through ice fields are discussed with a view to avoiding them or reducing the Repair and reinforcing materials to be carried aboard ship are listed: lumber and hardware; cement, sand, calcined sodium carbonate (for low temperature concrete); patches with wire screens, pads, mats, etc. Propellers, rudders, bow stem and framing are considered the most sensitive to damage. Methods of repairing rupture or holes in hullplates, reduction of leaks, and simple reinforcement of the weak plates or bulkheads are briefly described.

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47328. PETROV, M. Osobennosti zagruzki sudov, plavaíushchikh vo ľdakh. (Morskof flot, May 1950. god. 10, no. 5, p. 36–37.) Text in Russian. *Title tr.:* Special cargo loading of vessels going through ice fields.

Loading method is described, stressing importance of access to both sides of the hold for emergency repairs. Special attention is given to the forward section and bow, most subject to ice damage. The bilge system (water pumps, wells, screens, suction pipes, ballast tanks, etc.) must be cleared and checked particularly before an arctic trip.

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47329. PETROV, PROKOPIĬ USTINO-VICH. Revolûtsionnafa rol' ssyl'nykh bol'shevikov v Ākutii. (In: Akademifa nauk SSSR. Ākutskii filial. Institut fazyka, literatury i īstorii. Vedushchafa rol' russkogo naroda . . , 1955. p. 93– 106.) 17 refs. Text in Russian. Title tr.: The revolutionary role of bolshevik exiles in Yakutia.

Describes the leading part played by Russian bolsheviks in fomenting the 1905 and 1917 revolutions in Yakutia.

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47330. PETROV, V. I., and S. S. TSENIN. Razvitie ėkonomiki vostoch-

nykh raĭonov i ikh transportnoe osvoenie. (Zheleznodorozhnyĭ transport, Oct. 1956. god 38, no. 10, p. 42–48, map.) Text in Russian. *Title tr.:* The economic development of eastern regions and expansion of the transportation facilities.

The development of a third metallurgical and industrial region in Siberia, in addition to the Donetskiy and Kuznetskiy coal basins, is discussed with local details. Discovery and exploitation of natural resources (coal, ore, timber, minerals, rare metals, etc.) in the Ob', Yenisey, Lena, Angara River regions are related to problems of transportation. Development and improvement of waterways and motor highways, mainly north-south to the Kara and Laptev Seas, is required. Construction of new main, east-west, railroad lines is planned in coordination with the motor and water routes. Particular importance is given to construction of a second, and northern, trans-Siberian railroad in the near future. This line will connect Vorkuta with Ivdel' (60°42' N. 60°28' E.) and continue eastward along the 58° parallel to Ust'-Angara (Abalakovo 58°07' N. 92°43' E.), via Ust'-Kut to Bam (54°08' N. 123°42' E.) northeast to Chul'man (56°52' N. 124°52' E.) and Magadan on the Okhotsk The importance of this route for development of the northern regions is emphasized, because about 90 percent of the transportation is by railroad, seven percent by waterways, and three percent by motor transport. Consideration is given to construction of a pipe-line along the Siberian route for industrial centers of limited hydro-electric power.

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47331. PETTERSEN, KARL JOHAN, 1826–1890. De geologiske bygningsforholde langs den nordlige side af Torne träsk. (Geologiska föreningen, Stockholm. Förhandlingar, 1887. bd. 9, häfte 6, no. 111, p. 420–33, map.) Text in Norwegian. Title tr.: Structural geologic relationships along the north side of Torneträsk.

The granite which extends northward from near Altavatn in Norway, north of Torneträsk, and appears at lower levels in Dividalen, outerops also along the eastern end of the north shore of Torneträsk in Sweden. From analysis of reported outerops near Torneträsk, Dividalen, and Balsfjord, it appears that in both Norway and Sweden the granite

and younger formations east of the border mountain chain are comparable.

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47332. PETTERSEN, KARL JOHAN, 1826–1890. Notitser vedrørende den nord-norske fjeldbygning. (Geologiska föreningen, Stockholm. Förhandlingar, 1886. bd. 8, häfte 6, no. 104, p. 459–69.) Text in Norwegian. *Title tr.:* Notations concerning mountain building in northern Norway.

After recent investigation, outcrops earlier assigned to the micaschist series are identified as part of the Balsfjord series in Troms. Microscopic description, series sequence, and field relationships are interpreted for three cross sections.

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47333. PETTERSEN, KARL JOHAN, 1826–1890. Om gabbroen paa Seiland, Vest-Finmarken. (Geologiska föreningen, Stockholm. Förhandlingar, 1874. bd. 2, häfte 4, no. 18, p. 125–26.) Text in Norwegian. Title tr.: The gabbro on Seiland, Vest-Finmarken.

Study of a coarse-grained gabbro or hypersthenite in the Bekkafjord region reveals that the contained feldspar is amorthite and not labradorite, which is more common in the region.

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47334. PETTERSEN, KARL JOHAN, 1826–1890. Schematisk oversigt over det nordlige Sveriges og Norges geologi. (Geologiska föreningen, Stockholm. Förhandlingar, 1878. bd. 4, häfte 1, no. 43, p. 16–17, table.) Refs in text. Text in Norwegian. Title tr.: Schematic summary of the geology of northern Sweden and Norway.

Following a summer journey from Salt-dalen in Norway to Piteå in Sweden, the author tabulated the interpretations of two Swedish geologists and his own. Comparisons between age groups in these countries are made, citing particularly the Swedish Saedvajaur-Hornavan and Norwegian Dividalen series.

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47335. PETTERSEN, KARL JOHAN, 1826–1890. Serpentin og olivenstensforekomsten i det nordlige Norge. (Geologiska föreningen, Stockholm. Förhandlingar, 1876. bd. 3, häfte 2, no. 30, p. 62–71, plate.) Refs. in text. Text in Norwegian. Title tr.: Occurrence of serpentine and olivene in northern Norway.

Mineral and rock relationships to these minerals are traced in several locations in Finmark and Troms. Serpentine may be an original mineral in gabbro from its occurrence, but petrographic relationships make it appear secondary. One olivene knob, sp. w. 3.31, is described as a former Lapp offering place.

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And others. Meteorology of the Arctic. Washington, D. C., Mar. 1956. Xii, 207 p. illus., diagrs., tables, maps (U. S. Navy. Technical Assistant to Chief of Naval Operations for Polar Projects (Op-03A3) OPNAV PO3-3.) Other authors: W. C. Jacobs, and B. C. Haynes.

Contains a comprehensive review of the general meteorology and climatology of the Arctic. Meteorological parameters discussed include composition and structure of the atmosphere, inversions and lapse rates, acoustic and optical phenomena, air masses and fronts, cyclones and anticyclones, pressure, winds, temperature, precipitation, humidity, cloudiness and ceilings, fog and visibility, and illumination. Considerable climatic data covering most of these parameters are mapped and tabulated. Over 200 arctic and subarctic weather stations are listed together with their geographical coordi-

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PETTERSSON, HANS, see Föyn, E., and others. The radioactivity of seawaters. 1939. No. 44928.

nates and elevations.

PETTERSSON, SVEN OTTO, 1848–1941, see Cleve, P. T., and others. Les variations . . . surface . . . Atlantique. 1901. No. 44391.

47337. PETTIBONE, MARIAN HOPE, 1908— Marine polychaete worms from Labrador. (U. S. National Museum. Proceedings, 1956. v. 105, no. 3361, p 531–84, tables, map.) 87 refs.

A study based on material collected during the 1949-52 Blue Dolphin Expeditions in the intertidal zone and on the continental shelf, between 51° and 60° N. lat. Sixty-eight species are described, 45 of them also reported from Point Barrow, Alaska. Information includes a list of stations and tables of distribution of the species as well as notes on their synonyms; morphology and anatomy,

occurrence and new records, geographic distribution, etc. Copy seen: DSI.

47338. PÉWÉ, TROY LEWIS, 1918— . Application of geology to engineering in Alaska. (*In*: Alaskan Science Conference . . . 1953. Proceedings, *pub*. 1956, p. 64.)

Construction of highways, airfields, bridges, large installations, etc., and farm development, involve problems of foundations and materials. Presence of permarfrost and intense seasonal frost action are factors in construction plans and site selection. Types of surveys are noted: survey of the geology (in detail) at a specific site; general engineering geology survey prior to site selection; the latter is part of program of Alaskan Geology Branch, U. S. Geological Survey.

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47339. PÉWÉ, TROY LEWIS, 1918—, and R. A. PAIGE. Frost action on piling near Fairbanks, Alaska. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1809.)

Abstract of paper presented at the Seventh Alaskan Science Conference (AAAS), Juneau, Sept. 27–30, 1956. Frost action annually causes vertical displacement of inadequately anchored piling on Alaska Railroad bridges in Goldstream valley. Factors favoring frost action are the long periods of intense cold and widespread silt deposits with high moisture content due to shallow permafrost (2–3 ft. below surface). To resist frost heave, piling should penetrate permafrost at least twice the thickness of the active layer. Copy seen: DGS.

47340. PÉWÉ, TROY LEWIS, 1918—. Permafrost investigations in the Fairbanks area, Alaska. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 169.)

Permafrost is absent on hilltops and south-facing slopes. In the Tanana River floodplain it is discontinuous but to 180 ft. thick in places; no large ice masses occur and ground water is available. North of the floodplain in alluvial silt fans, permafrost is continuous and about 175 ft. thick; large ice masses occur and ground water is absent. History of deposition, erosion, freezing and thawing during past 30,000 yrs. is outlined.

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47341. PÉWÉ, TROY LEWIS, 1918— . Selected list of references on seasonally

and perennially frozen ground (permafrost). College, Alaska, 1956. 42 l.

Mimeographed.

Contains some 600 references listed by author under the categories: bibliography, general freezing, ground conditions, climatic data, seasonal frost, periglacial features, and permafrost. Foreign publications are included.

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PEYTON, LEONARD J., see Irving, L., and others. Metabolism and insulation of swine . . . 1956. No. 45716.

PFEFFERKORN, IGNAZ, b. 1725, see Ives, R. L. An early speculation . . . Asiatic origin of American Indians. 1956. No. 45754.

47342. PFLEIDER, EUGENE PAUL, 1910- . Underground mining in Sweden. (Mining engineering, Feb. 1956. v. 8, no.

2, p. 161.)

Includes notes on conversion of Kiirunavaara mine (Kiruna, 67°51′ N. 20°13′ E.) from open pit to underground operation; pending state ownership of Kiirunavaara and Malmberget (Gällivare, 66°10′ N. 20°35′ E.); stoping methods at both mines; underground transportation.

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47343. PHILLIPS, FRANCIS J. Basic problems of tuberculosis in Alaska. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 220.)

Information is presented on early existence of TB in Alaska; treatment centers; social, economic and human implications; cost to society, per case; etc.

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47344. PHILLIPS, ROBERT ARTHUR JOHN. Canada and Russia in the Arctic. Toronto, Canadian Institute of International Affairs, Oct. 1956. 12 p. (1ts: Behind the headlines, v. 16, no. 4.)

Popular study outline. Administration, transportation and resource development present similar problems in Canada and U. S. S. R. Russian use of its North has been more pressing and is more advanced than the Canadian. Shipping, mineral, timber, fishery, agricultural, etc. activities, also population and the role of government in the two areas are compared. Copy seen: CaMAI.

47345. P'ÎAVCHENKO, N. I. Ob usloviîakh proizrastaniîa lesa na vostoke Bol'shezemel'skol tundry. (Rastitel'nost' Kralnego Severa SSSR i ee osvoenie, 1956. vyp. 1, p. 16–26, illus., diagr., tables.) 17 refs. Text in Russian. *Title tr.:* On the conditions of forest growth in the eastern part of Bol'-

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In 1954, the Institute of Forests (Institut lesa) of the Academy of Sciences. together with the Pechora Railroad Administration, carried out an investigation of the natural conditions of tree growth between Usa and Vorkuta. The local vegetation is dwarf spruce, only 5 m. in height and 10-13 cm. diameter at over 100 years of age or more, dwarf arctic birch (Betula nana) deformed by damage from animals and man, shrubs, grasses and mosses of the forest-tundra. Soil temperature and chemistry data are tabulated and discussed in relation to the plant cover (cf. No. 41861). It was established that despite poor soil and severe climate, the forest is advancing into the tundra. Means of utilizing and furthering this process by soil amelioration and protection of trees are briefly. discussed. Copy seen: DLC.

47346. P'ÂVCHENKO, N. I. Ob uslovifakh vozniknovenifa torffanikov na sushe. (Akademifa navuk BSSR, *Minsk*. Instytut torfa. Trudy, 1954. t. 3, p. 3–14, illus., diagr.) 15 refs. Text in Russian. *Title tr.*: Conditions for formation of peat deposits on land.

Climate, relief and ground-water conditions after forest fires or cutting out are the main factors in formation of peat from established bog mosses, Funaraceae, Polytrichaceae and especially Sphagnum. Periodic or continuous flooding of low-lands with this vegetation fosters formation of peat. Selected (Russian) literature on this subject is reviewed.

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47347. PICHOTKA, JOSEF. Untersuchungen zur Temperaturregulation. (Klinische Wochenschrift, 1954. Jahrg. 32, Heft 9-10, p. 239-40.) Text in German. Title tr.: Investigations of temperature regulation.

A discussion of the physiological nature of falling temperature and its relation to O<sub>2</sub>-consumption, and general metabolism; also, the role of the thyroid in heat production and thermoregulation.

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47348. PICHUGIN, ALEKSEĬ VASIL'-EVICH, and others. Torfianye mestorozhdeniiâ i ikh razvedka. Izd. 2, perer. Moskva, Gos. energ. izd-vo, 1956. 280 p. illus. tables, diagrs., graphs. 43 refs. Text in Russian. Other authors: B. K. Dunaev, A. N. Isaev, K. M. Mifskevich, and A. P. Postnikov. Title tr.: Peat deposits and their exploration. 2nd rev. ed. Textbook approved by the Ministry of Electrical Stations for the peat

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General information on peat deposits is presented (p. 1-128), including their origin, vegetation cover, form and structure of the peat, degree of decomposition, geological structure and geographic distribution. Attention is given to the type and character of specific vegetation, its decomposition ability and relation to the stratigraphic classification of peat deposits. The hydrological nature of peat is described in relation to movement of ground water and geographic location. Second part of this work (p. 129-259) deals with various methods, instruments and procedures used in the surveying, sampling and recording of the deposits. Copy seen: DLC.

47349. PICKUP, J. D. Hypervitaminosis A. (Archives of disease in childhood, 1956. v. 31, no. 157, p. 229–32. illus.) 5 refs.

A description of two cases, in a boy of 6, and a girl of 4 years. Excessive medication with a vitamin A preparation was the cause of the disease in both cases; cessation of medication brought relief and cure.

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47350. PIEHTAR, VAREK. Professor Björn Collinder 60 år. (Samefolkets egen tidning, Sept. 1954. Årg. 36, nr. 3, p. 3, port.) Text in Swedish. *Title tr.*: Professor Björn Collinder 60 years old.

Notes on the life and work of Björn Collinder, professor in Finno-Ugrian languages at Uppsala University, Sweden; his numerous studies on the Lappish language and place-names, his book *The Lapps* (No. 21272). *Copy seen:* SPRI.

47351. PIGUET, ÉMILE. Wasserbewohnende Oligochaeten der nordschwedischen Hochgebirge. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 4, Zoologie, Lfg. 7, pub. 1919. p. 779–804, 5 illus.) 42 illus. Text in German. Title tr.: Waterdwelling oligochaetes of the north Swedish high mountains.

Contains tabulated data on the distribution of alpine oligochaetes of the natural zones of Torne Lappmark and the Sarek Mts. (approx. 67° N. 17° E.) region, followed by an annotated list of 35 species native to the Scandinavian Peninsula, and descriptions of eight collected by E. Bergström in 1908, and by N. v. Hofsten and G. Alm in 1911, in the Sarek Mts. Copy seen: MH-Z.

PIHLAINEN, JOHN A., and 47352. Pingo in the Mackenzie delta, others. Northwest Territories, Canada. logical Society of America. Bulletin, Aug. 1956. v. 67, no. 8, p. 1119-22, illus., text map, diagrs., graph) 7 refs. Also pub. as: National Research Council of Canada. Division of Building Research, Research paper, no. 27. Other authors: R. J. E. Brown and R. F. Legget. Reconnaissance survey was made in summer 1954 of a pingo at approx. 69°02' N. 134°25' W.; two borings were drilled: in the crater and at outer edge. The pingo rises 100 ft. above the surrounding ground level, is approx. 560 ft. in diameter, with crater 30 ft. in diameter. Two smaller "satellite" pingos are adja-Its upper part is covered with dense willow thicket in contrast to moss and low grass cover of surrounding area. Core-drilling records are given; also ground temperature observations below Copy seen: DGS. surface of crater.

47353. PIHLAINEN, JOHN A., and others. Soils in some areas of the Mackenzie River delta region. Ottawa, Oct. 1956. 51 p. 8 illus., text maps, diagrs., graphs, 2 tables. (National Research Council of Canada. Division of Building Research. Technical paper, no. 43.) 4 refs. Other authors: R. J. E. Brown and G. H. Johnston.

First compilation of soils data for this region, which lies in a zone of continuous permafrost. Information was collected in summers 1953 and 1954 at Aklavik and during survey for its new location. Physical geography of the delta region is sketched, and soil conditions typical of the delta proper are described. Grainsize distribution, ice content, unit weights, plastic soils, and organic contents are dealt with. Then follow descriptions of topography, vegetation and soils along the west edge of the delta in the Husky Channel and West Channel areas, approx. 12 mi. southwest and 25 mi. north of Aklavik; and along the eastern edge of the delta at locations 36 mi. northeast and 35 mi. east of the settlement; also some 80 mi. northeast of it, in the Caribou Hills and the Kittigazuit area.

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47354. PIĬP, BORIS IVANOVICH. Izverzhenie Avachinskol sopki v 1945 g. (Akademifa nauk SSSR. Kamchatskafa vulkanologicheskafa stantsifa. Bfulleten', 1953, no. 17, p. 6-23, illus., tables.) 14 Text in Russian. Title tr.: The eruption of Avachinskaya Sopka in 1945.

Detailed description of a brief explosive eruption of this volcano on Feb. 25, and of the post-eruptive ejection of vapor and gas; based on author's observations Mar. 4-Apr. 16, and on prior (from Feb. 25) information from others. data on the physical properties and chemical composition of ejected volcanic sand are presented and discussed.

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47355. PITP, BORIS IVANOVICH. Klîuchevskafa sopka i ee izverzhenifa v 1944-1945 gg. i v proshlom. Moskva, Izd-vo Akademii nauk SSSR, 1956. 311 p. illus., tables, maps, plans (Akademisa nauk SSSR. Laboratorisa vulkanologii. Trudy, vyp. 11.) 196 refs. Text in Russian. *Title tr.:* Klyuchevskaya Sopka and its eruptions in 1944-

1945 and in the past. Monograph in three parts: the first (p. 11-77) deals with the Klyuchevskaya group of volcanoes generally, their physical-geography and geology with description (also illus.) and geological history of the 12 volcanoes which comprise it: Blizhnyaya and Dal'nyaya Ploskaya, Srednyaya, Klyuchevskaya, Kamen', Bezymyannaya, Ostryy and Ploskiy Tolbachik, Bol'shaya and Malaya Zimina, Bol'shaya and Malaya Udina. The group occupies area of ca. 8,500 sq. km; mean height of the volcanoes is 3,390 m., Klyuchevskaya Sopka (4,850 m.) being the highest. Former eruptions of Klyuchevskaya Sopka are treated in pt. 2 (p. 79-136), with a chronological summary of its activity from the eruption in 1697 noted by Vladimir Atlasov to that of 1937-38. The general characteristic of its eruptive activity is deduced from this chronicle (p. 132-36). Klyuchevskaya Sopka is the most active of the Kamchatka volcanoes, its periods of eruption followed by 1- to 9-year intervals of a quiet fumarolic state. The eruptions of 1944-1945 are reported in detail in pt. 3 (p. 137-303), based on author's observations from the Kamchatka Volcanological Station at Klyuchi, 32 km. distant, and during his trips to the lateral cones and his ascent of the summit soon after the eruption had subsided. Physical, mineralogical and chemical description of ejected lavas, bombs, lapilli, slags, ashes, sand and gases, also of the fumaroles, are given (p. 194-297). The decisive role of gases in the dynamics of eruption is stressed. Terminology is discussed in the introduction, and an extensive bibliography of Russian and foreign literature is appended.

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47356. PIĬP, BORIS IVANOVICH. () vershine Zhupanovskoĭ Sopki i o nedavnem izverzhenii etogo vulkana. (Akademifa nauk SSSR. Kamchatskafa vulkanologicheskafa stantsifa. Bûlleten', no. 11, 1947. p. 14-21, illus., plan.) 4 refs. Text in Russian. Title tr.: The summit of Sopka Zhupanova and its recent eruption.

Rumors of a winter eruption of Sopka Zhupanova were checked in Aug. 1940. Writer's ascent of the summit is reported: the ancient dormant, and recent active craters are described. No evidence was found of recent eruption, though a brief, weak one was said by local inhabitants to have occurred in Feb. 1940.

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PIĬP, BORIS IVANOVICH. 47357. Sostofanie delstvufüshchikh vulkanov Kamehatki s maia 1943 po noiabr' 1944 g. (Akademilâ nauk SSSR. Kamchatskalâ vulkanologicheskalâ stantsilâ. Bûlleten', 1953, no. 17, p. 3-5.) Ref. Text in Title tr.: State of the active Russian. volcanoes in Kamchatka from May 1943 till November 1944.

Brief account of the fumarolic activity of Shiveluch, Klyuchevskiy, Kizimen, Avachinskiy and Mutnovskiy volcanoes, based chiefly on long distance observations from the Volcanological Station at Klyuchi. Visibility of the first four of these volcanoes and seismic data are noted. Copy seen: DLC.

47358. PHPARINEN, TAISTO. Lapin uunilintu, Phylloscopus borealis (Blas.), Lappeenrannassa. (Ornis fennica, 1956. v. 33, no. 2, p. 74.) Text in Finnish. Summary in English. Title tr.: The warbler, Phylloscopus borealis (Blas.) at Lappeenranta.

Contains a record of this arctic species at Lappeenranta (61°04′ N. 28°12′ E.); it was known previously from Lapland (Sodankylä). "A singing specimen in passage seen on June 22, 1951 in a garden in the town." Copy seen: DA.

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47359. PILSBRY, HENRY AUGUSTUS, 1862- . The barnacles (Cirripedia) contained in the collections of the U. S. National Museum. Washington, D. C., 1907. x, 122 p., 36 illus., 11 plates. (U. S. National Museum. Bulletin 60.) 16 refs.

Contains introductory remarks, description of the family, keys, and a systematic list of some 90 species, 39 new. At least five of the species are native to Bering Sea, Aleutian waters and Gulf of Alaska. Copy seen: DLC.

PIMIENTA-FRENEX, SUZANNE, see Malaurie, J. N., and S. Pimienta-Frenex. Sur les lamellibranches . . . 1953. No. 46578.

47360. PINCELLI, CARLO, and G. GARIBALDI. Su di un caso di osteoselerosi infantile di probabile origine ipervitaminosica A e D<sub>2</sub>. (Archivio di radiologia 1955. v. 30, fasc. 2, p. 335–48, illus.) 17 refs. Text in Italian. *Title tr.:* A case of infantile osteosclerosis, due probably to hypervitaminosis A and D<sub>2</sub>.

Description of a case in a boy of 8, with osteosclerosis localized chiefly in the cranium, the vertebral column, pelvis and lower extremities. It is assumed that earlier intake of high doses of vitamin A and D<sub>2</sub> is the etiological factor.

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PINEGIN, NIKOLAĬ VASIL'EVICH, 1883–1940, see Al'banov, V. I. Im Reich des weissen Todes. 1956. No. 43553.

PINEGIN, NIKOLAĬ VASIL'EVICH, 1883–1940, see also Al'banov, V. I. Mezhdu zhizn'îû i smert'îû . . . . 1926. No. 43554.

47361. PINKHENSON, D. M. TSarskie "ustroiteli" i interesy razvitifa severa. (Vsesofuznoe geograficheskoe obshchestvo. Izvestifa, July-Aug. 1956. t. 88, vyp. 4, p. 282-84.) Text in Russian. *Title tr.:* Tsarist "organizers" and interests in the development of the North.

Former rail- and water-way plans for connecting Siberia and the northern provinces with central areas of European Russia are reviewed; opposition to these plans by Russian landowners is stressed: they feared that cheap Siberian grain would force down bread prices in European Russia.

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PINSKY, J. J., see Geiger, E., and J. J. Pinsky. Effect . . . environmental temperature . . . stomach emptying in rats. 1956. No. 45049.

47362. PIONER. O tekh, kto vperedi. (Pioner, Aug. 1956, no. 8, p. 18–19, illus.) Text in Russian. Title tr.: Those who lead the way.

A group of 800 komsomole's-volunteers come to settle and work in the mining town of Noril'sk. **Copy seen:** DLC.

47363. PIOTROVICH, V. V. Ob utochnenii opredelenii nekotorykh osennikh ledovykh favlenii. (Meteorologifa i gidrologifa, Sept.-Oct. 1953, no. 9, p. 39-41.) 6 refs. Text in Russian. Title tr.: Terminology of autumn ice phenomena.

"Inconsistencies in the definitions of slush, anchor ice, and ice jams in the manual for observers published in 1944 are noted, and processes of ice formation are described. The structure and size of ice crystals depend not only on temperature and duration, but also on the number of crystallization nuclei and the place of formation. Large ice crystals form from a small number of nuclei and vice versa. The following changes in terminology are recommended: the term anchor ice should be used only for ice crystals formed on the bottom of a body of water; underwater ice should apply to any ice formation observed within water, but not on its surface; ice jams should be defined as accumulations of underwater ice under an ice cover; ice blockings should refer to masses of broken ice that effectively decrease the width of the river bed."-SIPRE.

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47364. PIOTROVICH, V. V. Vnutrivodnoe obrazovanie l'da. (Priroda, Sept. 1956. god. 45, no. 9, p. 94–95, illus.) Text in Russian. *Title tr.:* Formation of underwater ice.

English translation: Formation of depth-ice, by E. R. Hope for Canadian Defence Research Board, Directorate of Scientific Service, its Translation T 235 R, Ottawa, Nov. 1956 (4 p. illus.) Copy at CaMAI.

"Conditions of the formation and growth of anchor and underwater ice are briefly described, and effects of crystallization nuclei (AgI, PbI<sub>2</sub>, and ice crystals) on the freezing of supercooled water are discussed. The increased adhesion of water to solid substances (in

particular the bottom) upon supercooling causes the formation of anchor ice. Turbulent flow has a great supercooling effect by moving ice crystals down from the surface and by preventing ice-cover formation. Recent methods developed to control underwater ice at power plants utilize the instability of the supercooled state of water as well as the low adhesion values between ice and plastic coatings."—SIPRE

Copy seen: DLC.

47365. PIRLET, KARL. Individualphysiologische Studien des Wärmehaushaltes. (Archiv für physikalische Therapie, 1956. Jahrg. 8, Heft 3, p. 162– 69, illus.) 10 refs. Text in German. Title tr.: Individual physiological studies

of heat economy.

A study of 15 persons, grouped according to body-build, reaction and vagotonal and sympathicotonal "stigmata". In cold environment only leptosome subjects showed shivering and increased energy metabolism, but their skin temperature was higher due to easier heat transfer from the core through the thin, lean skin. In contrast to the pycnosome type, the lean leptosome was unable to maintain a stable core temperature in the cold.

\*Copy seen: DNLM.\*

47366. PISKOV, G. A. Na vozdushnykh dorogakh strany. (Kryl'ía rodiny, Sept. 1956. god 7, no. 9, p. 6-8, illus.) Text in Russian. *Title tr.*:

The country's airways.

Interview with G. A. Piskov, chief of the Transportation Section of the Main Administration for Civil Aviation, on development of air transport in the U. S. S. R. The Moscow-Sverdlovsk-Novosibirsk - Krasnoyarsk - Yakutsk -Magadan line is noted; Magadan is 32 hrs. flying time from Moscow, by railroad and steamer: 15 days.

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47367. PISTRAK, R. M. Struktura Russkol platformy v devonskoe i kamenno-ugol'noe vremā. (Moskovskoe obshchestvo ispytatelel prirody. Būlleten', 1950, god 121, otdel geologicheskil, t. 25, vyp. 2, p. 44–74, 12 text maps.) 14 refs. Text in Russian. Title tr.: Structure of the Russian platform in the Devonian and Carboniferous periods.

Summary of geological investigations of basic tectonic elements of the European Russian platform (47°-69° N. 21°-60° E.). Analysis of phases, magnitude and structure are made of the Paleozoic de-

posits in the southeastern and northern parts of the platform. Modification of the earth's crust is studied with consideration of initial and definitely known phases of transgression. The analyses are illustrated by 12 geologic maps showing distribution of deposits at different periods during the Devonian and Carboniferous.

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PITELKA, FRANK ALOIS, 1916—, see Hurd, P. D., and F. A. Pitelka. The role of insects . . . economy . . . birds. 1954. No. 45652.

47368. PLAFKER, GEORGE, 1929—. Geologic investigations of proposed Sheep Creek, Carlson Creek, and Turner Lake power sites, Alaska. Washington, D. C., 1956. 37 p. 3 illus., 4 maps (3 fold.), table. (U. S. Geological Survey. Reports, open file series, no. 394.) 10 refs.

Three sites (approx. 58°15' N. 134° W.) on the the mainland of Southeast Alaska near Juneau, streams draining into Gastineau Channel and Taku Inlet, were investigated during Aug.-Sept. 1954. Physiography, climate, and vegetation of the area are briefly described. Bedrock consists of northwest-trending metamorphic rocks dipping steeply to the northeast. Unconsolidated Quaternary deposits mantle much of the area. valleys of both creeks have been modified by Pleistocene glaciers, and Turner Lake occupies a rock basin formed by glacial scour. Information given for each site includes topography and surficial geology of reservoir site, bedrock geology of dam and powerhouse sites, conclusions and recommendations for construction. Conditions are favorable at all sites.

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47369. PLAFKER, GEORGE, 1929—. Occurrence of diatomaceous earth near Kenai, Alaska. Washington, D. C., U. S. Govt. Print. Off., 1956. p. 25–31, illus., 2 maps (1 fold.), tables. (U. S. Geological Survey. Bulletin 1039–B. Investigations of construction materials in Alaska.) 7 refs.

Diatomaceous earth is an unconsolidated earthy deposit formed by accumulation of the minute siliceous tests (skeletons) of diatoms. It occurs in postglacial lake deposits exposed along the shore of Cook Inlet north of the village of Kenai, Alaska. The largest and purest of these deposits, at approx. 60°41′ N. 151°23′ W., was mapped and sampled in detail in July-Aug. 1952.

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47 le The diatomaceous earth attains a maximum thickness of 12 ft. with the dried material averaging between 65 and 75 percent diatoms by weight. The deposit mapped contains about 200,000 cubic yards of diatomaceous earth which is readily accessible and is favorably situated with regard to transportation by sea and road.—From Author's abstract.

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47370. PLAFKER, GEORGE, 1929—, and D. J. MILLER. Reconnaissance geology of the Malaspina District, Alaska. Washington, D. C., 1956. 35 p. fold. map, table. Mimeographed. (U. S. Geological Survey. Reports, open file series, no. 379.) 26 refs.

Contains results of investigation of a 1675 sq. mi. area on the Gulf of Alaska coast between Icy Bay and Guyot Glacier on the west, and Yakutat and Disenchantment Bays on the east, extending inland 30 mi. to the St. Elias Mts. (approx. 59°45' - 60°20' N. and 139°30' -141°22' W.). Survey was part of a U. S. Geological Survey program to investigate petroleum possibilities of the Gulf of Alaska Tertiary Province. Bedded rocks are tentatively divided into four major sequences ranging in age from Cretaceous and older through unconsolidated Quaternary deposits. Each of these is described, the Tertiary sequence (third) in most detail. Three major orogenic periods are represented by unconformities separating the four rock sequences. The orogenies and resulting structure are described; also petroleum possibilities and coal resources.

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PLANE, PIERRE, see Malmejac, J., and P. Plane. Équilibre cardio-vasculaire ... 1956. No. 46584.

PLANE, PIERRE, see also Malmejac, J., and others. Résistance des centres nerveux supérieurs à l'hypothermie . . . 1956. No. 46588.

PLANE, PIERRE, see also Malmejac, J., and others. Sur l'activité nerveuse supérieure après hypothermie . . . 1956. No. 46590.

PLANE, PIERRE, see also Malmejac, J., and P. Plane. Sur la résistance du système nerveux . . . 1956. No. 46591.

47371. PLASHCHEV, A. V. Vzryv ledfanogo bugra. (Priroda, Sept. 1956.

god 45, no. 9, p. 113.) Text in Russian. Title tr.: Rupture of an ice mound.

"An instance observed in the estuary of the Kontrand'ye River is described. The mound, originally 50 x 10 m. and about 3 m. high, was shattered into pieces about 4 m. sq. and 80 cm. thick, which were hurled distances of 15–20 m. The phenomenon was caused by the freezing of super-cooled water due to soil vibrations."—SIPRE.

Similar ice mounds were observed on the Emtegey, Myaundzhe and Kontrand'ye Rivers in the upper Kolyma basin, southern Yakutia; and similar cases of rupture were recorded by other travelers and explorers.

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47372. PLASS, GILBERT NORMAN, 1920- . Carbon dioxide and climate. (American scientist, July 1956. v. 44, no. 3, p. 302-316, graph.) 15 refs.

The carbon dioxide theory of climatic change is explained, with some discussion of relationship of mountain building and amount of CO2 in the atmosphere to major glacial epochs. Recent climatic amelioration may be result of extensive burning of fossil fuels in industry which adds more than 6 x 10° tons of CO2 per year to the atmosphere. If CO2 theory is correct, radiocarbon dates prior to the last glacier recession are questionable. If at the end of the century, average temperatures have continued to rise and measurements of atmospheric CO2 are also up, "then it will be firmly established that carbon dioxide is a determining factor in causing climatic change."

Copy seen: DGS.

PLATNER, WESLEY STANLEY, 1915, see Meyer, D. K., and others. Water and electrolyte . . . anoxia, cold and inanition. 1956. No. 46734.

PLATT, H., see Jasper, R. L., and others. The accumulation of fat in the liver of rats... 1956. No. 45771.

47373. PLATT, RUTHERFORD. Flowers in the Arctic. (Scientific American, Feb. 1956. v. 194, no. 2, p. 88-98, 14 illus., text map.)

Popular account of observations made by the author, an amateur botanist, primarily in northern Greenland on the shores of Kane Basin, during expeditions in the *Bowdoin* led by D. B. MacMillan in 1947 and 1954. Survival of plants in the far North through utilization of long hours of sunlight in summer, development of cactus-like, water-filled leaves, vegetative reproduction, growth around eider-duck nests, etc., is discussed. Similiarity of certain genera and species in widely separated parts of the world is noted.

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47374. PLOTNIKOV, M. A. Burye (?) vodorosli iz nizhnevizeľskikh otlozhenií zapadnogo sklona Pechorskogo Urala. (Moskovskoe obshchestvo ispytateleľ prirody. Bfulleten', 1947. god 118, Otdel geologicheskiľ, t. 22, no. 2, p. 93–96, illus.) 5 refs. Text in Russian. Summary in English. Title tr.: Brown (?) algae from the Lower Visean deposits of the Pechora Urals.

Contains description of algae found in siderite concretions of the Lower Visean deposits on the western slope of the Urals (Kozhim River 65°48′ N. 59°22′ E., and Bol'shoy Patok River basin). The finds, common in a horizon 60–65 m. thick and over a considerable area, suggest a shallow-water origin for the enclosing rock formation.

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PLUMB, HARMON HASTINGS, 1924—, see Landauer, J. K., and H. H. Plumb. Measurements on anisotropy of thermal conductivity of ice. 1956. No. 46230.

47375. PLUTCHIK, ROBERT, 1927—, and M. GREENBLATT. Temperature changes of the skin; a function of initial level. (American journal of psychology, Sept. 1956. v. 69, no. 3, p. 403–409, illus., tables.) 6 refs.

Account of investigation aimed to determine, how temperature changes of the skin (finger) depend on its initial temperature. Larger rises occur when initial temperature is low, but the amount of fall was unrelated to the initial level. The rate of change was always faster during increase than during fall of temperature. The lower (or the higher) the initial temperature was, the longer continued an increase (or decrease) of temperature.

\*\*Copy seen: DNLM.\*\*

47376. PLUVINAGE, P., and G. TAY-LOR. Rapports scientifiques des expéditions polaires françaises N IV 1; la température de l'air dans les premiers mètres au-dessus de l'inlandsis Groenlandais. (Annales de géophysique, 1956. t. 12, no. 2, p. 157-66, illus., diagrs., graphs, tables.) 4 refs. Text in French.

Title tr.: Scientific reports of the Expéditions polaires françaises N IV 1; air temperature in the first [few] meters above the Greenland inland ice.

Air temperatures between 0-3 m. were measured with thermocouples during the period Mar. 3-July 17, 1950 at the French Central Station (70°55' N. 40°38' W.). Various types of temperature variations as a function of height are diagrammed and discussed. Six major types are distinguished. A general tendency was found for an increase in temperature with height in these lower levels. The maximum effect was produced by the varying amounts of cloud cover. Extreme gradients were obtained under conditions of clear sky and no wind. Copy seen: DGS.

47377. POGOREVICH, V. V. Opyt biofatsial'nogo izuchenifa Vorkutskol svity Severo-Vostochnol chasti Pechorskogo bassena. (Akademifa nauk SSSR. Laboratorifa geologii uglfa. Trudy, 1956, vyp. 5, Materialy vtorogo ugol'nogo geologicheskogo soveshchanifa, p. 227–38.) 7 refs. Text in Russian. Title tr.: Bio-facial study of the Vorkuta series in the northeastern section of the Pechora basin.

Attempt at classification of geological strata of the Vorkuta coal-bearing area, based on paleontological study of their fossilized flora and fauna. Several successive transgressions and regressions are noted, and nine types of strata for each subsidence and the same strata in reverse order for each lifting are tentatively sketched. Previous attempts at classification by A. P. Rotaf, L. K. Smirnova and others are discussed and criticized.

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47378. POGREBETSKIĬ, E. Toplivo v shestol pfatiletke. (Neva, Aug. 1956, no. 8, p. 119-24, illus.) Text in Russian. Title tr.: Fuel in the sixth Five-Year Plan.

Mentions discovery of new coal deposits in Krasnoyarskiy Kray, in southern Yakutia, Kolyma River, Sakhalin, and Noril'sk; also plan to supply Sverdlovsk and other Ural centers, with natural gas found at Berezovo. Copy seen: DLC.

47379. POHJAKALLIO, ONNI. On the effect of the intensity of light and length of day on the energy economy of certain cultivated plants. (Acta agriculturae Scandinavica, 1951. v. 1, no. 1:2, p. 153–75, 8 illus., 13 tables.) 16 refs.

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Light conditions near Helsinki (approx. 60° N.), Rovaniemi (67° N.), and Inari (69° N.) are compared; and cereals potatoes, legumes, and grasses studied. Differences in intensity of light, length of day, and temperature are considered in relation to the length of growing period, to maturity of cereals and effects on dry matter yield.

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47380. POHLHAUSEN, HENN. Das Wanderhirtentum und seine Vorstufen; eine ethnographisch-geographische Studie zur Entwicklung der Eingeborenenwirtschaft. Braunschweig, A. Limbael [1954]. 176 p., sketch maps (Kulturgeschichtliche Forschungen, Bd. 4) 214 refs. Text in German. Title tr.: Nomadie herding cultures and their beginnings: an ethnographic-geographic study of the development of indigenous economy.

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Includes a survey of reindeer cultures (p. 33–66) in the ice age and among the Eskimos, Chukchis, Koryaks, Samoyeds, Lapps, Soyots, Tungus, and the Yenisey Ostyaks. The Magdalenian reindeer-hunting culture is considered as precursor of later herding. Economic importance of the reindeer and its influence on cultural

development are analyzed.

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47381. POKROVSKAĀ, TAISIĀ VA-SIL'EVNA. Poteplenie klimata na severe Tikhogo okeana. (Meteorologiā i gidrologiā, 1946, no. 5, p. 88-95, diagrs., map.) 17 refs. Text in Russian. *Title* tr.: Warming of the climate in the North Pacific.

Time graphs show the annual average rise of temperatures at Nikol'skoye on Bering Island from 1911 to 1939. A chart of the polar basin shows a scheme of circulation of the surface water and ice, taken from No. 16487. Scatter diagrams show the relation of mean air temperature for two years (Mar.—Dec.) on Bering Island to precipitation during two winter seasons (Nov.—Mar.) in the Caspian Basin.—From Meteorological abstracts, Sept. 1954. v. 5, no. 9, p. 1093.

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47382. POKROVSKIĬ, GEORGIĬ. Mankind's home, how to improve it. (News, a Soviet review of world events. Oct. 1, 1956. no. 19 (126), p. 19–21, diagr.)

Two suggestions are reviewed: one involves building a dam across Bering Strait to block the southward flow of arctic water, and with atomic power, to

pump warm Pacific water into the Arctic Basin (cf. No. 46628). The other for spraying snow and ice of the Arctic with a thin layer of some dark substance, say smoke-black, to accelerate melting. The hazard of raising the level of the world ocean is noted and the need for international cooperation to realize either of these suggestions is stressed.

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47383. POKROVSKIĬ, V. M., and V. M. BENSMAN. Nekotorye dannye o profilaktike fibrillatšii serdtša v uslovitakh gipotermii. (Éksperimental'natā khirurgifa, 1956. god 1, no. 4, p. 15-19.) 17 refs. Text in Russian. Summary in English. Title tr.: Some data on prophylaxis of cardiac fibrillation under conditions of hypothermia.

Account of investigations including comparative observations on cats and dogs. The former fibrillated at 23° C., the latter at 26° C. Myocardial hypoxia and incision of the right ventricle provoked fibrillation. Novocaine and proserine used separately could not prevent it, but both combined with glucose were highly effective in forestalling it during hypothermia with temporary circulatory occlusion.

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47384. *POLAR RECORD*. [News notes.] (Polar record, 1956. v. 8, no. 52-54.)

Events and other news of arctic interest (except expeditions, obituaries, ships (infra) are summarized as follows:

Seventh meeting of the International Whaling Commission in Moscow, July 18-23, 1955, at which amendments to schedule of the 1946 Convention were recommended and proposals made on conservation of blue whales, inspection, observers on factory ships (no. 52, p. 44-45):

Sighting of large ice island from *Kista* Dan in Kong Oscars Fjord, East Greenland, Sept. 20, 1955, at approx. 72°05′

N. 23°W. (no. 52, p. 46);

Statement by W. A. Wood that ice island T-3 was first sighted Apr. 27, 1947, by crew of a U. S. Air Force B-29, in correction of former Polar record note (Arctic Bibliography, No. 41903) attributing discovery to Royal Canadian Air Force (no. 52, p. 66-67);

Topographic maps of Greenland issued by the Danish Geodaetisk Institut at scales 1:300,000, 1:250,000, 1:50,000, and

1:2,000 (no. 52, p. 39-42);

Topographic maps of Svalbard published by the Norsk Polarinstitutt at scales 1:2,000,000, 1:500,000, 1:100,000, 1:50,000, 1:25,000, and 1:10,000; the main series at 1:100,000 intended to cover Svalbard in about 50 sheets (no. 54, p. 273-76);

Confusion of names between U.S. Air Force base at old Thule settlement, North Greenland (76°34' N. 68°49' W.) and new Eskimo settlement to the north (77°27' N. 69°11' W.). Special Committee for the International Geophysical Year now designates the air base as Thule Air Base, and the Eskimo settlement as Thule Village (no. 53, p. 176-

Reasons for transfer of Aklavik, Mackenzie District, from West to East Channel of Mackenzie River, and factors by which suitability of potential sites was judged during relocation survey

(no. 53, p. 178-79);

Greenland bird-banding scheme, organized in 1946 by what is now Ministeriet for Grønland: 30,215 birds have been banded and 8.2 percent recovered, a remunerative occupation for Greenlanders, providing information for bird conservation (no. 54, p. 270);

Marking of 85 bison in Wood Buffalo Park by Canadian Wildlife Service using helicopter and spraying animals with paint from hand fire-pump (no. 52, p.

44);

Transport of 300 reindeer from Fin-North Norway, to Godthaab mark, region, West Greenland, in Sept. 1952; in May 1955 herd numbered 459 (no. 54, p. 272-73);

New method of determining age of the larger whales depending on occurrence of laminations in the wax plug in the "ear"

(no. 53, p. 175);

McGill University Sub-Arctic Research Laboratory at Knob Lake, Quebec, built in 1954; its field program (no. 54, p. 277);

Map showing name, location, and function of 107 Soviet polar stations under jurisdiction of Chief Administration of the Northern Sea Route (Glavseymorput'); discrepancies noted between this map and one produced 1956 by Glavsevmorput' showing proposed Soviet IGY stations (no. 54, p. 278-79);

Place of the Soviet Arctic in the U. S. S. R. sixth five-year plan, 1956-60

(no. 53, p. 177); Notes on "strand cracks," "ice Notes on "strand cracks," "ice streams," and definition of "ice rise," supplementing Arctic Bibliography, No.

37692 and 42100 on ice terminology (no. 52, p. 64-66);

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Search and rescue device "Sarah" (Search and Rescue and Homing) which operates by powerful radio signals, useful in location of personnel wrecked on land or sea (no. 54, p. 276-77);

Alaska pipeline, Haines to Fairbanks, started in Dec. 1953, has five pumping stations, capacity of 12,000 bbls./24 hrs.,

626 mi. length (no. 52, p. 43);

Experiments made on effect on body temperature of swimming and lying still in cold water (no. 53, p. 176);

Activities of Tenth Air Rescue Group, U. S. Air Force, responsible for operations on mainland of Alaska (no. 52, p. 43).

Trial flights by Scandinavian Airlines System over trans-arctic route between Nov. 1952 and May 1954, with stops and flying time given (no. 54, p. 253);

Start of trans-polar commercial flights by Canadian Pacific Airlines June 3, 1955, Vancouver to Amsterdam, and continuing

weekly service (no. 52, p. 42);

Anglo-American discussion in May 1955 on trans-arctic routes between London and west coast of United States; BOAC plans round-the-world route including trans-arctic service (no. 53, p. Copy seen: DLC. 177).

47385. POLAR RECORD. [Notes on expeditions, exercises, projects, patrols, etc.] (Polar record, 1956. v. 8, no. 52-54.)

Summary accounts are given of the following: Operation "Southwind" by Arctic Group of the Transportation Corps, U. S. Army, Oct.-Dec. 1955, in which cargo from Thule, North Greenland, was delivered by mechanized vehicles to destination on the inland ice in winter darkness (no. 54, p. 255-56); "Ptarmigan Flights" made daily by U. S. 58th Weather Reconnaissance Squadron from Eielson Air Force Base near Fairbanks, Alaska to lat. 85° N., 1947-1955, collecting data on weather, aurora, pack ice (no. 52, p. 24);

Archeological expedition of a three-man party led by Meldgaard and sponsored by Danish National Museum-University of Pennsylvania-Arctic Institute of North America, to Melville Peninsula and Foxe Basin region to investigate paleo-Eskimo sites (no. 53, p. 152-53).

"Operation NORS-1", first all-Canadian resupply of joint U. S.-Canadian weather stations in the arctic islands

carried out by five ships, July-Sept. 1954

(no. 53, p. 153);

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Eastern Arctic Patrol, June 25-Sept. 25, 1954, by Canadian Dept. of Transport ship C. D. Howe, carrying government officials and cargo for 18 stations (no. 53, p. 153);

Cruise of Canadian ice-breaker Labrador, June-Nov. 1955, in Foxe Basin and Hudson Bay, delivering supplies to DEW Line sites and carrying out hydrographic

surveys (no. 53, p. 156);

Studies of plankton, cod, and walrus in Hudson Bay and Labrador Sea from the *Calanus* in summer 1955; observation of plankton and benthos, walrus and seal by wintering party in the vessel at Igloolik, winter 1955–1956 (no. 54, p. 254–55);

Arctic Unit of Fisheries Research Board of Canada established 1955 with eight-man staff, H. D. Fisher in charge

(no. 54, p. 255);

Five-man Aberdeen University Expedition to Spitsbergen, led by E. A. Fitz-Patrick July-Aug. 1954, studied soil and plant conditions near Longyearbyen, Vestspitsbergen (no. 52, p. 25);

Geological and survey work by fourman Cambridge Expedition to Northern Ny Friesland, July-Aug. 1955, led by M. B. Bayly (no. 53, p. 154-55);

Five-man Cambridge Expedition to East Greenland led by J. H. Latter, July-Aug. 1955, to band pink-footed and barnacle geese, Anser brachyrhynchus and Branta leucopsis (no. 53, p. 155);

Studies of vegetation, bird distribution, mammals and insects, and plant pollination by five-man Cambridge Expedition to Lapland, June-July 1955, in area 68°27′ N. 20°47′ E., northern Sweden

(no. 53, p. 155);

Fourteen-member Cambridge Spitsbergen Physiological Expedition, summer 1955, led by M. C. Lobban, continued work started in 1953, with bases in Billefjorden region, Vestspitsbergen (no. 54, p. 253-54);

Durham University Expedition to Svartisen, North Norway, June-Sept. 1955, an eight-man party led by W. S. Moffat carried out survey, geologic, glaciological, botanical and zoological work and a bathymetric survey of Svartisenvatn (no. 54, p. 254);

Nottingham University Expedition to northern Vestspitsbergen, summer 1955, a six-man party led by M. Mellor did glaciological and geologic work in the Kongsfjorden region and icecap to the

east (no. 53, p. 155-56);

Oxford University Expedition to Nordaustlandet, July-Sept. 1955, the eightman party led by J. T. Hollin continued glaciological work begun by Oxford and Cambridge Spitsbergen Expedition of 1951; also geologic, botanical investigations and gravity measurements (no. 52, p. 26);

Flights by two Royal Air Force Hastings aircraft from Resolute, Cornwallis Island, to North Pole and return, May 1955; transpolar flight by Canberra bomber Aries IV from Bardufoss, Norway, to Fairbanks, Alaska, June 1955

(no. 52, p. 26–27);

Norsk Polarinstitutt expedition in the *Minna* to Vestspitsbergen July 2-Sept. 2, 1955, for geological mapping and soundings and inspection of radio beacons and lights; also annual relief expedition to northeast Greenland, July 23-Aug. 29 (no. 53, p. 154);

Investigation of Lapp sacrificial sites, dialect, folk traditions, reindeer husbandry, and customs by Landsmålsarkivet i Uppsala, 1950–1953, in northern

Sweden (no. 52, p. 24);

Swedish Expedition to Svalbard, summer 1954, in which a four-man Uppsala University group carried out geomorphological and biological investigations in the Tempelfjorden region, Vestspitsbergen (no. 53, p. 152);

Austrian Expedition to Spitsbergen, July-Aug. 1954, consisted of a seven-man mountaineering party led by H. Gsellmann; some 30 peaks in the Krossfjorden-Kongsfjorden region of Vestspitsbergen were climbed for the first time (no. 52,

p. 25);

Establishment of Soviet drifting stations North Pole-3 and -4 on the ice in Apr. 1954, drift of the stations, evacuation of -3 and relief of -4 in Apr. 1955, and establishment of North Pole-5 at 82°04′ N. 157° E. (no. 52, p. 27-28, map);

Oceanographic expedition of Soviet ice-breaker Fedor Litke north of Zemlya Frantsa-Iosifa to 83° 11'N. 49°03' E.,

Sept. 1955 (no. 52, p. 27).

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47386. *POLAR RECORD*. [Notes on ships]. (Polar record, 1956. v. 8, no. 52-54.)

Construction and other news of the following ships is reported:

British fisheries research vessel Ex-

plorer, built for the Scottish Home Dept., launched June 1955, with hull strengthened for work in ice (no. 53, p. 180); research ship Shackleton, originally built in Sweden in 1954 for ice work on Norwegian coast, purchased by Falkland Islands Dependencies Survey in Aug. 1955 (no. 53, p. 180-81);

Willem Barendsz, Dutch whale factory ship, launched Nov. 1952, largest of its kind: 44,000 tons displacement, can also be used as a tanker (no. 52, p. 46);

Glacier, U. S. Navy ice-breaker launched Aug. 1955, 8,300 tons displacement, largest and most powerful American-built ice-breaker (no. 53, p. 181);

Loss of Norwegian ship Jopeter, beset in ice off East Greenland in early Sept.

1955 (no. 53, p. 179-80);

A proposed classification of ships for use in ice consists of two main categories: ice-breakers, and ice-strengthened ships, with subdivisions of each (no. 52,

p. 45-46);

Table of statistics on recent ice-breaker construction: nationality, completion data, displacement, dimensions, engines, speed, horsepower, and builder are given for: Elbjørn (Denmark), Thule (Sweden), d'Iberville and Labrador (Canada), Voima (Finland), Kapitan Belousov and another unnamed (U. S. S. R.), and Glacier (U. S.); four more are noted to be under construction (no. 52, p. 47).

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**47387. POLAR RECORD.** [Obituaries]. (Polar record, 1956. v. 8, no. 52–54.)

Brief obituaries are given for Prof. Haakon Shetelig, 1877–1955, authority on Scandinavian pre-history and Viking

archeology (no. 52, p. 68);

Monseigneur Arsène Turquetil, 1876–1955, Prefect Apostolic of Hudson Bay from 1925, who went to Canada in 1900 and established missions at Chesterfield Inlet, Eskimo Pt., and Southampton Island (no. 52, p. 68);

Dr. Robert Charles Wallace, 1881-1955, Executive Director of the Arctic Institute of North America (no. 52, p. 68).

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47388. THE POLAR TIMES. No. 42–43, June–Dec. 1956. New York, American Polar Society, 1956. 2 nos.: 36 p. 32 p. illus., text maps. Photolithographed.

Scope and type of information is similar to that of previous issues (Arctic Bibliography, No. 13630, 41907). Of par-

ticular interest are items on IGY., 1957-1958; DEW Line in northern Canada and Alaska; new Aklavik site; Eskimo scouts with the Alaska National Guard; rising birthrate among Eskimos eating "white men's food"; arctic tour of the Governor General of Canada; new polar stamps; new radio relay communications network ("White Alice") in Alaska; 1956 U. S. supply mission to DEW Line sites and other bases; Canadian Eastern Arctic Patrol, 1956; J. L. Giddings' discovery of 3,000-4,000 yrs. old "house" at Eschscholtz Bay, Kotzebue Sound, northern Alaska; obituaries of polar explorers, scientists. Copy seen: DGS.

47389. POLARBOKEN. Fra Arktisk Forening. Tromsø. (Polarboken, 1956, p. 191–92.) Text in Norwegian. Title tr.: From the Arctic Association, Tromsø.

The Association's activities are reviewed as reported at its sixth annual meeting Mar. 21, 1956: assistance to fishing and hunting interests, resupply of Bjørnøya and Svalbard, educational meetings with north Norway's home defense, publication of a small book about the Association, and collection of old skippers and hunters' memoirs, etc. Officers and board members are listed; membership is approx. 600.

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47390. POLÍAKOV, A. S. Razvitie i razmeschchenie proizvoditel'nykh rajonov evropeľskogo Severa v shestoľ píatiletke i zadachi ekonomicheskol geografii. (Akademisa nauk SSSR. Izvestifa, serifa 1956. no. geograficheskafa. Nov.-Dec. 6, p. 70–76.) Text in Russian. tr.: Development and distribution of the productive forces of the European North in the sixth five-year period and the objectives in economic geography.

Coal in Vorkuta and Inta, oil at Ukhta, the wood industry of Arkhangel'sk Province, and new railroads, including the Pechora railroad, have been developed during previous five-year periods. For the sixth, further achievement is planned in all these fields, beginning with the wood industry, railroads and waterways. A new metallurgical and machinery manufacturing center, based on Kola Peninsula iron and Pechora basin coal, is to rise in the Cherepovets area. Its importance is discussed, and economic, geographic and geological investigations, ancillary to industrial development, are outlined. Development

of the large peat deposits and of waterpower in the North is essential.

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47391. POLKANOV, A. A. Kratkii ocherk dochetvertichnol geologii naibolee vostochnol chasti Fennoskandii: Karelii i Kol'skogo Poluostrova. (Leningrad. Universitet. Uchenye zapiski, 1940, serifa geologo-pochvennykh nauk, no. 49, vyp. 9, p. 5–20, maps.) Text in Russian. Title tr.: Brief review of pre-Quaternary geology of the eastern part of Fennoscandia: Karelia and the Kola Peninsula.

Petrographic and geologic studies of many investigators have established that not only Archean and Proterozoic formations are developed on the Kola Peninsula and Karelia, but also formations of the Paleozoic era (cf. map, p. The more recent geological periods for Fennoscandia, Kola and Karelia are Similarity of the Paleozoic discussed. geological history and structure in these regions is analyzed with consideration of geometric symmetry and geology of both Scandinavian and Russian areas. Archean, Cambrian and Silurian formations are reviewed in detail. Copy seen: DLC.

POLLACK, HERBERT, see USQM Food & Container Institute. Nutrition symposium. 1954. No. 48643.

47392. POLONSKIĬ, N. V., and K. V. ALEKSEEV. Geografo-gidrologicheskie issledovanifâ basselna r. Umby. (In: Khibinskie apatity, 1933. t. 6, p. 241–43.) Text in Russian. Title tr.: Geographic and hydrological investigations of the Umba River basin.

The Umba basin (24 km. in length, in southwest Kola Peninsula approx. 67°15' N. 34° E.), is studied in three sections in relation to hydro-electric installations: the upper part from the Kapustin lakes region is characterized by marshy lowlands with sandy moraine islands and streams with high banks of gabbroamphibolites, augite porphyry and micaquartz, ending in a 17 m. waterfall. middle part from Lower Kapustin Lake to the Poncheozero has banks mainly of biotite gneiss and a number of large The lower part of the Umba basin extends through the area subjected to erosion from the White Sea. 12 millions cu. m. of diatomite deposits are located in the region of the Umba River. The total fall of the river is 151

m., which can be used in nine stages (43, 25, 20, 17, 12 and a few 10 m. drops). Copy seen: DGS.

47393. POLONSKIĬ, N. V. K izucheniû diatomitov. (In Fersman, A. E. Za polûrnym krugom, 1932. p. 65–68, illus.) Text in Russian. Title tr.: The study of diatomites.

Diatomites, needed in the building industry, were searched for on Kola The first sediments were Peninsula. found on the bank of the Sergevan' River, 8 km. south of the town of Lovozero (68° N. 35° E.). In 1931 the Lovozero team of the Academy of Sciences' Kola Expedition, headed by the author, discovered and investigated nearly 20 deposits of diatomites located 12-40 km. from the railroad, amounting altogether up to 30 million cu. m.; in 1932, the same team worked in the southern part of the peninsula and found five deposits with approx. 10 million cu. m. of diatomites; while another team, headed by S. F. Egorov, found valuable deposits in the Lake Imandra region and along the Murmansk railroad.

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POLTEV, K. M., see Karaban, G. L. and K. M. Poltev. Snegouborochnye mashiny. 1955. No. 45890.

47394. POLUTOFF, N. Das Mammut von Taimyr; neue Erkenntnisse zur Ökologie des sibirischen Mammuts. (Eiszeitalter und Gegenwart, 1955. Bd. 6, p. 152–58, illus., map.) 15 refs. Text in German. Title tr.: The mammoth of Taymyr; new data on the ecology of the Siberian mammoth.

Summary of investigation results of a mammoth found on the banks of Mamontovaya River in Taymyr Peninsula in 1948, based on publications by B. A. Tikhomirov, L. A. Portenko, E. D. Zaklinskafa, and others (cf. No. 32474, 25257, 38336). Causes of death are discussed (evidently in fight with enemies), also its way of life, food (not so much mosses as grass), contemporary climate and vegetation. The epoch of its life, according to radio-carbon estimate, was approx. 12,000 years ago.

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47395. POLUTOY, I. A., and others. Tralovyi promysel u ūgozapadnykh beregov Kamchatki. (Rybnoe khozaistvo, Oct. 1956. god 32, no. 10, p. 13–21, illus., tables.) Text in Russian. Other

authors: D. I. Kachin, V. I. Tikhonov, and N. V. Ermilova. Title tr.: Trawl fishery on the southwest coast of Kamchatka.

Contains information on species of plaice along the west coast, Kamchatka; their distribution according to location and season; fishing areas and banks; fishing fleet, catches, overall and per boat averages; monthly distribution of catches; work organization of the fishing vessels and its economy; fishing according to banks, including problems of overfishing, protective measures, etc.

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POLUTOV, I. A., see also Panin, K. I., and I. A. Polutov. Novye nakhodki . . . 1956. No. 47246.

47396. POLUZADOV, N. B. Stafsionarnye lovushki-kormushki na sobolia. (Ratsionalizafsifa okhotnich'ego promysla, 1956. vyp. 5 p. 45-51, illus.) Text in Russian. *Title tr.:* Stationary feeding-trapping devices for sables.

Describes two types of traps for sable and one for wolverine with instructions for construction and use. The devices which eatch the animals without injuring them, are based on traps used by hunters in the Urals and Siberia, with some modifications suggested by the author.

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POLUZADOV, N. B., see also Zaleker, V., and N. B. Poluzadov. Razmnozhenie . . . soboliâ . . . 1956. No. 49036.

47397. POMERAT, CHARLES MARC, 1905-, and R. B. LEWIS. Thermal stress and tissue culture, 1; the effect of rapid freezing and thawing on chick embryonic epidermis, skeletal muscle and spindle cells. (Texas reports on biology and medicine, 1953. v. 11, no. 2, p. 307-329, illus.) 7 refs.

A study of over 1000 cultures of these tissues subjected to freezing from  $-3.4^\circ$  C. to  $-39.2^\circ$  C. in less than a minute, and then rapidly thawed. Viability was evaluated according to amount of cells which emigrated in subsequent cultures. The critical temperature was found to be: for muscle  $-18^\circ$  to  $-21^\circ$  C., for epidle cellium  $-30^\circ$  C., and for spindle cells variable, according to tissue of origin, and occasionally as low as  $-39.2^\circ$  C.

47398. POMERAT, CHARLES MARC, 1905-, and R. B. LEWIS. Thermal stress and tissue culture, 2; the effect of

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rapid freezing and thawing on human new born and adult skin. (Texas reports on biology and medicine, 1953. v. 11, no. 2, p. 333-44, illus.) 6 refs. Co

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Report of an investigation on the viability of human epithelial and spindle cells frozen within less than a minute to temperatures of  $-1.4^{\circ}$  C. to  $-35.7^{\circ}$  C. and subsequently rapidly thawed. Spindle cells survived exposure to  $-29.2^{\circ}$  C., preputial epithelium  $-24.4^{\circ}$  C, epidermis and scar tissue  $-20.5^{\circ}$  C. Copy seen: DNLM.

47399. POMERAT, CHARLES MARC, 1905—, and others. Thermal stress and tissue culture, 4; the intensity-time factor. (Texas reports on biology and medicine, 1954. v. 12, no. 2, p. 345-53, illus., tables.) 2 refs. Other authors: J. Nakai and P. F. Gilliland.

Account of experiments with skin and muscle cultures from chick embryos, exposed to deep freeze (-14.5° to -16.0° C.) and to ice-box temperatures (+2.0° C. to +7.0° C.). The time of exposure required to produce total inhibition of cellular emigration was used as criterion. The results indicate that cellular injury increases with increased storage time as well as with increased cold intensity.

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47400. POMERAT, CHARLES MARC, 1905—, and others. Thermal stress and tissue culture, 5; efforts to enhance outgrowth following cold injury with the use of Rimifon, Marsilid and various cortisone preparations. (Texas reports on biology and medicine, 1954. v. 12, no. 2, p. 354-69, illus., tables.) 21 refs. Others authors: J. Nakai and T. G. Blocker, Jr.

Account of experiments with embryonic chick cultures and cultures of human rib marrow. The first two preparations failed to produce better outgrowth from cold injured explants. Some evidence was found for the beneficial action of cortisone, especially hydrocortisone at  $2\gamma$  per ml. of nutrient medium. Pt. 6 of this study deals with heat effect.

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47401. POMERAT, CHARLES MARC, 1905-, and P. S. MOORHEAD. Thermal stress and tissue culture, 7; the effect of glycerol on cells with special reference to protection against freezing. (Texas reports on biology and medicine, 1956. v. 14, no. 1, p. 237-53, illus., tables.) 11 refs.

Contains a study on the effects of various methods of freezing upon tissue fragments from chick, mouse and rat. The effects of glycerol on freezing and thawing, on cell organoids and on cell activity were investigated. Results varied depending on issue, speed and depth of freezing; presence or absence of glycerol, Copy seen: DNLM.

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POMERAT, CHARLES MARC, 1905see also Nakai, J., and others. Thermal stress and tissue culture, 3 . . . freezing media. 1954. No. 46930.

POMUS, MOISEI ISAAKO-47402. Zapadnafa Sibir'; geograficheskil Moskva, Izd-vo "Znanie," 1955. VICH. obzor. 39 p. maps (1 fold.) (Vsesouznoe obshchestvo po rasprostranenifu politicheskikh i nauchnykh znanii, serifa 3, no. Text Russian. Title in West Siberia; a geographical outline.

West Siberia is co-extensive with the Ob' River basin. Its natural resources and their utilization in agriculture and industry are sketched; the main economic zones of area are characterized. railroad from Labytnangi (approx. 66°40' N. 66° 25' E.) on the Ob' River joins the Pechora-Vorkuta line at Chum (approx. 67°10' N. 63°16' E.) and links Western Siberia with central U.S.S.R. Natural conditions in the far North of the area are favorable for reindeer-breeding.

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47403. PONOMARENKO, I. N. Migratsifa antitsiklonov u shirotnykh gornykh khrebtov Evropy i Srednel Azii. (Meteorologiía i gidrologiía, Apr. 1953. 5, p. 31-35, table, 3 maps.) 4 refs. Title tr.: Migration Text in Russian. of anticyclones along latitudinal mountain ridges of Europe and Central Asia.

Influence of mountain ridges on evolution of the anticyclones is studied in the region from the northern Caucasus to the Arctic (80° N.). The discussion is accompanied with three synoptic maps plotted for Jan. 1949 and Nov. 1950.

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47404. PONOMAREV, F. A. Opyt rybakov Pechory. (Rybnoe khozſalstvo, Nov. 1956. god 32, no. 11, p. 42-45, illus., table.) Text in Russian. Title tr.: Experiment of the Pechora fisher-

A description of the leading fishing kolkhoz, "20 let Oktfabrfa," and its experiments with improved methods for catching salmon and for under-ice fishing of dorse. The new methods are compared with the old ones and credit is given to the initiators of the new techniques.

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PONOMAREV, P. V., see Egorov, V. I., and others. Izmeneniia funktsii serdechno-sosudistol sistemy . . . gipotermii. 1956. No. 44738.

47405. POOLE, J. B., and R. W. WOLF-GANG. Hydatid disease in the Yukon and Northwest Territories. (Canadian journal of public health, Jan. 1956. v. 47, no. 1, p. 44.)

Summary of a paper on an intradermal skin survey for echinococcosis among the populace of northwest Canada. Of 1,863 Indians tested, 27 percent showed positive The presence of sylvatic reactions. echinococcus in this area was also established. Survey was made in 1954-55 by the Institute of Parasitology of McGill University in cooperation with the Laboratory of Hygiene of the Indian Health Service of the Department of National Health and Welfare.

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POOLE, J. B., see also Wolfgang, R. W., and J. B. Poole. Distribution . . . Echinococcus disease in northwestern Canada. 1956. No. 48999.

POPE, JOSEPH H., see Helliwell, R. A., The "nose" whistler . . . and others. 1956. No. 45509.

47406. POPKOV, IU. Tvorenia severnykh drevodelov. (Vokrug sveta, Feb. 1956, no. 2, p. 35-38, illus.) Text in Title tr.: Creations of the Russian. northern wood masters.

Sketches of the wooden (Russian?) architecture in Karelo-Finnish S. S. R., including its northern regions (Kem', etc.), based on author's ski-trip through the country several years ago. Construction of dwellings, churches, etc., is briefly described; influence of cold climate and abundance of excellent timber on the architecture is noted. Drawings by S. Brodskii illustrate the text.

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POPKOV, IVAN FEDORO-47407. VICH. Obshchafa lotsifa vnutrennikh vodnykh putel. Moskva, Izd-vo "Rechnol transport," 1955. 322 p. illus., table, maps, graphs. Text in Russian. tr.: General piloting on the inland waterways.

Textbook recommended by the Administration on educational institutions of the Ministry of the River Fleet, U. S. S. R.,

for river and technical schools.

Fundamentals of river hydrology are discussed for trip planning, preparation of navigation maps, piloting through inland waterways, etc., also the use of such information in practical ship piloting. River ice conditions and terminology on ice formation are considered (p. 72-79); location of suitable harbors for wintering vessels (p. 94-100) and regulations on ship movements are dealt with (p. 274-76). Précis is included (p. 305-328) of the hydrological and navigating characteristics of the main inland waterways, including the Pechora, Ob', Irtysh, Yenisey, Angara, Lena Rivers, the Belomorskiy Canal, etc.

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47408. POPKOV, V. F. Makrosefsmicheskie nablûdeniâ v rafone vulkanov Klûchevskof i Ploskif Tolbachik s 3 iûmâ 1939 g. po 22 iûmâ 1940 g. (Akademiâ nauk SSSR. Kamehatskaâ vulkanologicheskaâ stantsiâ. Bûlleten', no. 11, 1947. p. 22–25, table.) Text in Russian. Title tr.: Macroseismic observations in the region of Klyuchevskiy and Ploskiy Tolbachik volcanoes from June 3, 1939 to June 22, 1940.

Data based on observations of the Kamchatka Volcanological Station at Klyuchi and on reports from other villages in the area. Number of earthquakes recorded at various places in 1935–40 are tabulated, the greater number (297) at Klyuchi.

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47409. POPKOV, V. F. Nablūdenifa za defatel'nost'fū vulkanov Klūchevskogo i Ploskogo Tolbachika s 1 iūlā 1939 g. po 1 fānvarā 1940 g. (Akademifa nauk SSSR. Kamchatskafa vulkanologicheskafa stanfsifa. Bfūlleten', no. 11, 1947, p. 3–10, tables.) Text in Russian. Title tr.: Observations on the activity of Klyuchevskiy and Ploskiy Tolbachik volcanoes from July 1, 1939 to January 1, 1940.

Activity of Klyuchevskiy Volcano was limited to emission of gas; Ploskiy Tolbachik erupted at the end of September. Tabular data on the activity of Klyuchevskiy Volcano are given for the period 1935–1939.

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47410. POPOV, A. I. K voprosu ob omokakh. (Leningrad. Universitet. Uchenye zapiski, no. 115, 1950. Fakul'tet narodov Severa, vyp. 1, p. 64–72.) 10 refs. Text in Russian. Title tr.: The problem of the Omoki.

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Suggests that the Omoki or Omokony, said to have lived along the Kolyma, Malyy Anyuy, and lower Indigirka Rivers (Yakut A. S. S. R.) in the 17th century, are simply a different name used to define one of the Odul (Yukaghir) tribal units, the word "omoki" meaning clan. Statistics of Yukaghir population for 1770, 1895–97 and 1926, and the reasons for their virtual extinction (warfare, smallpox epidemics, and complete russification) are given. Paper presented at the Northern Conference at Leningrad, Dec. 10–14, 1947.

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47411. POPOV, A. I. Proiskhozhdenie i razvitie moshehnogo iskopaemogo l'da. (Akademiña nauk SSSR. Institut merzlotovedenifa. Materialy k osnovam uchenifa o merzlykh zonakh zemnol kory, 1955. vyp. 2, p. 5–24, illus., diagr.) 23 refs. Text in Russian. *Title tr.:* Origin and evolution of fossil ice.

"Investigations earried out since 1823 on the distribution and structure of fossil ice are outlined, and hypotheses concerning the phenomenon are discussed. These data, corroborated by special investigations carried out in N. Siberia since 1949, indicate the correctness of the Bunge hypothesis (1887) which associates fossil ice with water freezing in frost fissures. The polygonal structure of fossil ice and its distribution in alluvial river valleys under muddy peat disprove the popular hypothesis of the origin of fossil ice from firn."—SIPRE. Copy seen: DLC.

47412. POPOV, A. I. Le thermokarst. (Łódzkie towarzystwo naukowe. Biuletyn peryglacjalny, 1956. nr. 4, p. 319–30, 4 illus., diagr.) 9 refs. Text in French. Title tr.: Thermokarst.

Thermokarst is the result of soil subsidence due to thawing of frozen rock or fossil ice masses. Relief forms depend on the form and quantity of the ice. Shallow thermokarstic forms are found in more southerly regions where the layers and veins of ice diminish with depth; the very large and deep forms exist in the North where the ice extends to great depths. Amelioration of climate is not indispensable for thermokarst formation which can occur in a climate becoming colder and at the same time more continental in type.

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47413. POPOV, ANDREĬ ALEKSAN-DROVICH. Dolgany. (*In:* Akademiíâ nauk SSSR. Institut ėtnografii. Narody Sibiri, 1956. p. 742–59, illus.) 11 refs. Text in Russian. *Title tr.:* Dolgans.

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Gives the tribal names, distribution, population statistics (1445 in 1926) and history of this predominant ethnic group on the Taymyr Peninsula. Their material culture is discussed: nomadism, reindeer herding, hunting (use of camouflage shields on runners, poisoned arrows and bullets are noted), fishing (drag-nets), food, various types of tents (chum), clothing, etc. The tribal structure (patriarchate with traces of original matriarchate), communal economy, and religious beliefs are sketched. The post-Revolutionary period progress, is described: collectivization was completed by 1938; native economies are expanding; a gradual settling of nomad groups is still in progress; advances in education, housing, changes in customs, etc., are Copy seen: DLC. noted.

47414. POPOV, ANDREĬ ALEKSAN-DROVICH. Kety. (*In:* Akademiâ nauk SSSR. Institut ėtnografii. Narody Sibiri, 1956, p. 687–700, illus.) 17 refs. Text in Russian. *Title tr.:* The Kets.

Relates the historic and present distribution of the Kets, or Yeniseians, now (roughly) along the Turukhan and middle Yenisey Rivers. Their language, unrelated to any living language, was spoken by 1225 people (1926 census); their assimilation with neighboring tribes and Russians, and their history generally are sketched. Their hunting (squirrels and large game), fishing and reindeer herding are described. They used reindeer-drawn sledges, dugouts, nomadic tents (chum), mud-houses; on the Podkammenava Tunguska: dog-drawn sledges, houseboats. Their tribal division into phratries and clans, inheritance practices, shamanism, burial customs, etc., are discussed. With the Soviet regime, kolkhozes have been introduced, the reindeer-herding and other economic Trade, education, activities expanded. etc., are sketched. Cooperation of B. O. Dolgikh is acknowledged in preparation of this article. Copy seen: DLC.

47415. POPOV, ANDREÏ ALEKSAN-DROVICH. Nauchnyl trud o narodakh Severa. (Dal'nil Vostok, Nov.—Dec. 1956. god 24, no. 6, p. 167–71.) Text in Russian. Title tr.: Scientific work on peoples of the North.

Review of M. A. Sergeev's work Nekapitalisticheskiš put' razvitiū malykh narodov Severa (No. 42402). Summary of the contents is given with favorable comment and note of some minor shortcomings. Copy seen: DLC.

47416. POPOV, ANDREĬ ALEKSAN-DROVICH. Nganasany. (In: Akademifa nauk SSSR. Institut ėtnografii. Narody Sibiri, 1956. p. 648–60, illus.) 9 refs. Text in Russian. Title tr.: The Nganasans.

The most northern of all the peoples of U. S. S. R., this Tawgi-Samoyed group (867 in 1926) inhabits the Taymyr Their linguistic and racial Peninsula. affiliation, history, and pre-Revolutionary economy are reviewed. Reindeer herding was poorly developed, reindeer hunting (described) and fishing were the main means of subsistence. Man- and reindeerdrawn sledges, food (preservation, storage, etc.) clothing, tribal subdivisions, property rights, marriage, religious beliefs, folk-lore, etc., are described. collectivization and resulting changes in their customs and economy are discussed: the increased reindeer herding, enforcement of hunting and fishing regulations, etc. Copy seen: DLC.

47417. POPOV, ANDREĪ ALEKSAN-DROVICH. Pletenie i tkachestvo u narodov Sibiri v xix i pervoī chasti xx stoletiā. (Akademiā nauk SSSR. Muzeī antropologii i ėtnografii. Sbornik, 1955. t. 16, p. 41–146, illus.) Approx. 50 refs. Text in Russian. *Title tr.:* Weaving and spinning by the peoples of Siberia in the 19th and the first part of the 20th century.

Discusses the native crafts of braiding, weaving, and spinning, in their historical development, areal diffusion and local techniques among the peoples of Siberia including the Yakuts, Lamuts, Voguls, Golds, Yukaghirs, Dolgans, Tungus, Chukchis, Koryaks, etc. The implements, methods, and the raw materials (reindeer and seal skin and sinew, fish bladder, animal hair, grass fiber, tree bark, etc.) used for the making of rope and thread are described and illustrated. finished products: nets, mats, baskets, belts, tape, etc. are similarly presented. Many photographs and more than a hundred drawings elucidate the text.

POPOV, ANDREĬ ALEKSANDROVICH, see also Friedrich, A., and G. Buddruss. Schamanengeschichten . . . 1955. No. 44978.

Copy seen: DLC.

47418. POPOV, T. N Nakhodki iskopaemykh zhivotnykh v vechnol merzlote. (Priroda, Sept. 1956. god 45, no. 9, p. 40–48, 5 illus., text map.) 8 refs. Text in Russian. Title tr.: Finds of fossil animals in permafrost ground.

Review, based mainly on No. 17836, of fossil mammoth and rhinoceros investigations in northern Siberia. The first mammoth, found in the Lena delta (72° N.) in 1799, was investigated by M. F. Adams in 1806, skeleton recovered and placed in the Zoological Museum of the Academy of Sciences. Between 1805 and 1900, some 30 mammoth finds were In 1901 the well-preserved remains of a frozen mammoth (Elephas beresovkius) in situ were excavated by the expedition of O. Herz (cf. No. 7035-7036) in the Berezovka River region of Siberia. K. A. Vollosovich excavated mammoth parts found by A. Gorokhov in 1906 on Bol'shoy Lyakhovskiy in the New Siberian Islands. A mammoth skeleton was brought from the Taymyr Peninsula in 1949 by the Expedition of the Academy of Sciences U. S. S. R. In all, 34 mammoth carcasses and five of rhinoceros have been found in the frozen ground of Siberia. Copy seen: DLC.

POPOV, W. N., see also Kiparisova, L. D., and W. N. Popov. Raschlenenie nizhnego otdela triasovol sistemy . . . 1956. No. 45987.

47419. POPOV, M. V. Kormovye uslovifa i pitanie zattsa-belfaka v fakutii. (Moskva. Moskovskii gosudarstvennyi pedagogicheskii institut im. V. I. Lenina. Uchenye zapiski, 1956. t. 96, vyp. 6, p. 23-75, illus. tables.) 36 refs. Text in Russian. Title tr.: Feeding conditions and food of the snowshoe hare in Yakutia.

A study based on field work conducted during 1950, 1951, 1953 and 1954; it deals with types of forests surveyed, food of hares as determined by stomach contents, and its month-by-month frequency. Detailed analysis is given of summer feed, its general nutritive value; details of winter food are included. Chemical composition of common trees used as food, and of summer and winter grass, proportions of various feeds taken at different seasons and in different regions are treated in turn, with discussion of food conditions and their effect on the hare population. Copy seen: DLC.

POPOV, M. V., see also Kontrimavichus, V. L., and M. V. Popov. Dinamika zarazhennosti gel'mintami . . . zaltsabeltaka . . . 1958. No. 46071.

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POPOV, S. N., see Glembotskii, IA. L., and S. N. Popov. Ocherk . . . skotovodstva . . . IAkutskoi ASSR. 1956. No. 45141.

47420. POPOV, V. Bogatstva Sibiri, na sluzhbu Rodine. (Sibirskie ogni, Mar.—Apr. 1956. god 35, no. 2, p. 133—42.) Text in Russian. *Title tr.:* The riches of Siberia in the service of the fatherland.

Outlines industrial potentials of Siberia and stresses advantages and importance of their development. Iron ore deposits discovered in 1946 near the Angara-Yenisey junction and those recently found near the coal basin of southern Yakutia are noted. The hydro-electric stations, operating and planned, on the Ob', Yenisey, Angara and Lena Rivers and lumber production of Krasnoyarskiy Kray are discussed. Copy seen: DLC.

47421. POPOVA, A. I. Sporovo-pyl'tsevye spektry chetvertichnykh otlozheniĭ tsentral'nol Ākutii v svíāzi s istorieľ razvitiía rastitel'nosti ee v posletretichnoe vremā. (Akademiā nauk SSSR. Ākutskiĭ filial. Yakutsk. Institut biologii, Trudy, 1955. vyp. 1, p. 136–46, illus., tables.) 8 refs. Text in Russian. Title tr.: Spore and pollen profiles of Quaternary deposits in central Yakutia in connection with the history of development of its flora during post-Tertiary times.

About a hundred samples of early alluvial deposits were collected at eight different points of central Yakutia. An attempt is made to reconstruct the course of development of the Quaternary flora of the area on the basis of spore-pollen analysis and to aline it with the geomorphic peculiarities of the area. Climatic conditions are also reconstructed.

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POPOVIČ, PAVA, see Popovič, V., and P. Popovič. Sur les limites de température . . . hibernal. 1956. No. 47422.

47422. POPOVIČ, VOJIN, and P. POPOVIČ. Sur les limites de température du sommeil hibernal. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 7, p. 1439-40.) 3 refs. Text in French. Title tr.: Limits of temperature in hibernation.

Account of observations on the gopher, Citellus citellus. Hibernation is not induced by cold per se and dormant animals have been observed at environmental temperature of 30° C. with their body temperature 1-2° above it. Most hibernating animals died at environmental temperature below 0° C. without attempt of awakening; on the other hand awake animals withstood cold below —15° C.

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POPOVIČ, VOJIN, see Chevillard, L., and others. Activité physiologique du rat refroidi . . . effets . . . adrénaline. 1955. No. 44334.

47423. POPOVSKII, ALEKSANDR. Voskhozhdenie na sever. (Ūnyl naturalist, Dec. 1956, no. 9, p. 30-31.) Text in Russian. Title tr.: Ascent toward the North.

Notes work of the Soviet scientists and horticulturists, I. V. Michurin and V. M. Krutovskii (in Krasnoyarsk Province), N. F. Kashchenko and Prof. Kizûrin, in raising frost-resistant strains of fruit and extending fruit-growing northward.

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47424. POPPIUS, BERTIL ROBERT.
1876-1916, and others. Dipteren aus dem
Sarekgebiet. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des
Sarekgebirges in Schwedisch-Lappland,
1907-1939. Bd. 4, Zoologie, Lfg. 6,
pub. 1917. p. 665-96, plate 10.) Text
in German. Other authors: C. Lundström
and R. Frey. Title tr.: Diptera from
the Sarek region.

Contains a systematic enumeration of 98 species of Diptera Nematocera by C. Lundström, among them: Orthocladius doloplastoides, Trichotanypus appropinquatus and Bezzia pilipennis n. spp.; followed by a systematic annotated list of 158 species of Diptera Brachycera by R. Frey, including Rhamphomyia longestylata and R. hambergi n. spp. The foreword is signed by B. Poppius.

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47425. POPPIUS, BERTIL ROBERT, 1876–1916. Lepidoptera aus dem Sarekgebirge. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 4, Zoologie, Lfg. 7, pub. 1919. p. 763–78.) Text in German. Title tr.: Lepidoptera from the Sarek Mountains.

Contains a systematic annotated list of 45 lepidopters collected by the author in 1907, followed by a simple list of 18 (no. 46-63) obtained in the same region

by C. Skottsberg (1900), I. Trägårdh (1903) and A. Hamberg. The supplement was compiled by Y. Sjöstedt. *Copy seen:* MH-Z.

47426. PORSILD, ALF ERLING, 1901- . Silene menziesii and allies in western Canada. (Rhodora, May 1938. v. 40, no. 473, p. 212-15.)

Contains a critical study of a species of pink, S. menziesii, recorded in Yukon Territory and Alaska, and S. williamsii, closely related to it and known also from the same region but expanding more to the northward.

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47427. PORSILD, ALF ERLING, 1901- . The so-called *Woodsia alpina* in North America. (Rhodora, May 1945. v. 47, no. 557, p. 145–48.)

Contains a translation of the original Swedish description of W. alpina, a circumpolar arctic-alpine fern species. It differs considerably from the plant of temperate eastern North America. The latter is described as W. belli n. comb. and its range is from Labrador (Nain), Newfoundland, Quebec to northern New Brunswick and northern Vermont.

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47428. PORTER, VIVIAN S., and others. Anemia in western Alaska. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 217-19, tables.) Other authors: R. C. Wright, and E. M. Scott.

Report on a study of anemia in ten villages of western Alaska. Only in two of them indications of widespread anemia were found; this was accompanied by low serum inorganic iron and high copper. A dietary explanation of this anemia is favored. Copy seen: DGS.

PORTERA, A., see Huertas, J., and others. Effects of hypothermia . . . electrical activity . . . 1956. No. 45635.

47429. POSPELOV, G. L. Krai velikikh vozmozhnostel. (Nauka i zhizn', Nov.—Dec. 1956. god 23, no. 11, p. 16–19; no. 12, p. 13–16, illus., col. plate.) Text in Russian. *Title tr.:* A country of great possibilities.

Siberia has 50 percent of the iron ore of U. S. S. R., 70 percent of the forest, 80 percent of the arable soil, 90 percent of the non-ferrous metals and of the potential water-power. Geology of the area is sketched and abundance of minerals noted. Plans for hydro-electric plant construction on the Ob', Yenisey

and Angara Rivers are discussed; theoretical possibilities are mentioned of utilizing difference of temperature in various ground layers for producing electric power in permafrost regions.

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**47430. POST, LOUIS A.** The role of the Gulf Stream in the prediction of iceberg distribution in the North Atlantic. (Tellus, Feb. 1956. v. 8, no. 1, p. 102–111, diagrs., tables, maps.) 11 refs.

Contains correlations among the annual frequency fluctuations of the icebergs and the preseasonal sea surface current and temperature in the Florida Straits, as well as those of the Labrador Current three years later on the basis of 26 years' data. Fluctuations in the Gulf Stream are suggested as the single major factor controlling iceberg distribution in the North Atlantic south of 48° N. lat. The relatively good agreement between these variables is attributed to the current strength of the Gulf Stream which has an immediate effect on southward drift of bergs and an additional effect delayed by three years on the Labrador Current. An iceberg-prediction table is included utilizing mean sea temperatures at Key West for March of the same year and three years earlier. Copy seen: DLC.

47431. POSTEL, ALLEN H., and others. Effect of hypothermia in irreversible hemorrhagic shock. (Circulation research, Sept. 1956. v. 4, no. 5, p. 594-98, illus.) 11 refs. Other authors: L. C. Reid, and J. W. Hinton.

Contains a study on the effects of hypothermia induced at three different periods following the onset of hemorrhage. Temperature, pulse, respiration, blood pressure, ECG, etc., are recorded. Survival time was greatest in the dogs cooled early in the shock sequence.

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**47432. POSTLE, LAWRENCE T.** Western Canada. (Mining engineering, Feb. 1956. v. 8, no. 2, p. 160, illus.)

Sherritt Gordon Mines Ltd. at Lynn Lake, Manitoba (56°51′ N. 101°03′ W.), produced 24 million lbs. of nickel in concentrates in 1955. Open stope mining methods were used. Additional ore reserves are indicated. Exploration, by Pine Point Mines Ltd., of the lead-zinc property on the south shore of Great Slave Lake (61°01′ N. 114°15′ W.) has outlined a mineralized belt 22 millong and two to four mi. wide. At least

five million tons of the indicated ore are suitable for open pit mining.

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POSTNIKOV, A. P., see Pichugin, A. V., and others. Torfiânye mestorozhdeniîâ . . . 1956. No. 47348.

POTAPOV, LEONID PAVLO-47433. VICH. 1905- . Istoriko-ėtnograficheskii ocherk russkogo naseleniia Sibiri v dorevolutsionnyl period. (In: Akademisa nauk SSSR. Institut ėtnografii. Narody Sibiri, 1956, p. 115-214, illus, incl. col. plates.) Approx. 90 refs. Text in Russian. Title tr: Historicalethnographic outline of the Russian population of Siberia in the pre-Revolutionary period.

Reviews the Russian advances into Siberia from the 12th century on: exploration of the main rivers (Ob', Yenisey, Lena, Angara) and their estuaries in the 17th century, gradual absorption of the Far East and occupation of the Aleutian Islands and Alaska in the 18th century. The fur trade, early exploitation of natural resources and subsequent development of local industries are described. Introduction of agriculture and animal husbandry, resettlement of Russian peasants, founding of towns and trading posts, building of railroads, schools and hospitals, etc., are discussed, stressing the peaceful assimilation of the territory and the beneficial aspects of Russian colonization. The adaptation of Russian peasants to local (including northern) conditions, hunting and fishing along the Arctic and Pacific Oceans (gear, methods, main food fishes and fur animals, etc.), use of draught dogs and reindeer, transportation (river boats, sledges, etc.), housing, clothing, creative arts, etc., are described. Selected statistics (17th-19th centuries) on Russian population and industrial production are mentioned. The collaboration of S. V. Ivanov, G. S. Maslova and V. K. Sokolova is acknowledged.

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POTAPOV, LEONID PAVLOVICH, 1905— , see also Akademiâ nauk SSSR. Institut étnografii. Narody Sibiri. 1956. No. 43522.

47434. POTAPOV, V. M. Ledovyl rezhim derivatsionnykh sel'skikh gidroėlektrostantsil. Moskva, Gos. izd-vo literatury po stroitel'stvu i arkhitekture, 1955. 175 p. illus., tables, graphs, diagrs. 29 refs. Text in Russian. *Title tr.*: lee conditions in rural hydro-electric plants.

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Ice formation in rivers and channels and the winter operation of hydroelectric plants are discussed, with illustrated terminology of ice-forms (sludge, naled', anchor ice, snow slush, ice obstructions, etc.) and with tabulation of major difficulties in winter plant opera-Methods of calculating heat exchange, affecting the formation and accumulation of ice obstructions, are described in relation to air and water temperatures, atmospheric conditions, rate of water flow and other river condi-Various devices for controlling ice and sludge accumulation in the approaches to spillway and channel gates are described, with diagrams.

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POTASHNIKOV, V. I., see Geografiâ v shkole. Vysokoshirotnyi . . . ledoreza "Fedor Litke." 1956. No. 45063.

47435. POTTER, WILLIAM EVERETT. Analysis of design factors for power, heating, ventilating, and refrigeration systems for Alaska. [Washington, D. C.] 1956. 2 p. l., 11 p. (*In:* U. S. Office of Naval Operations. The dynamic North, v. 2, no. 7.)

Contains design criteria and a discussion of geographical factors affecting the design of steam plants and distribution systems, and of ventilating and refrigeration systems in Alaska. Various physical phenomena are discussed as affecting utilities, e. g. permafrost and ice fog, as well as such factors as location, fuel supply, and condensing water facilities.

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47436. POTZGER, JOHN ERNEST, 1886–1955, and A. COURTEMANCHE. A series of bogs across Quebec from the St. Lawrence valley to James Bay. (Canadian journal of botany, July 1956. v. 34, no. 4, p. 473–500, 3 illus., 19 diagr., table.) 18 refs. Pub. also as: Publication 281 of the Botanical Laboratory of Butler University and Contrib. 15 of the Service de Biogéographie, Université de Montréal.

Contains results of the boring of 19 bogs, 45°07′ – 51°59′ N., at about 50-mile intervals, including a few in the Nottaway-Rupert-Eastmain River area. Up to 47° N., five major climatic changes are recognized and designated Q¹-Q⁵. "The single most striking feature of the study is that red-white pine penetrated

as important forest associates to the Rupert River (51°28' N.) . . . during the prominent warm-dry period (Q3) The great change in vegetation type, with more emphasis on boreal species (Picea mariana and Pinus banksiana) . . . suggests the Cochrane oscillation influence and subsequent retreat during the ensuing major xerothermic period (Q3). This period had probably waned by the time the forests were able to invade the James Bay region, thus giving rise to a rather monotonous changeless forest history from lat. 50°54' northward (Q5)." Pollen count of shrubs and herbs is tabulated in relation to that of trees, and bog profiles are given.

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47437. POULSEN, ARTHUR O. The occurrence of manganese ores in Norway. (In: International Geological Congress. 20th, Mexico City, 1956. Symposium sobre yacimientos de manganeso. Tomo 5, Europa, p. 291–98, 2 text maps, tables.) 6 refs.

Manganese ore deposits of sedimentary origin are found in the Ofoten region (68°27' N. 17° E.), where manganiferous strata, interbedded in limestones and mica schist, form a large syncline with arms extending north-northeastward. Ore minerals are pyrolusite, magnetite, and hematite. Manganese and iron content varies. In deposit on Hinnøy in the Vesterålen Islands (68°30'-69° N. 15° E.), ore is quartz-banded manganiferous hematite, with sections as high as 35 percent iron, 8 percent manganese. Similar ore is found at Hamarøy on the mainland to the south. Deposit of manganosiderite has been found on Rubben Mt. northeast of Narvik (approx. 69° N. 19° E.), averaging 30-40 percent iron and 7-81/2 percent manganese. No deposits are being developed at present. Copy seen: DGS.

47438. POULSEN, CHRISTIAN. 1896- . The Cambrian of the East (In: Inter-Greenland geosyncline. national Geological Congress. 20th, Mexico City, 1956. El sistema Cámbrico, su paleogeografía y el problema de su Tomo 1, p. 59-69, base: symposium. 2 text maps, tables.) 12 refs.

The "Eo-Cambrian," a series of strata below the fossiliferous Lower Cambrian in Norway, contains deposits of glacial origin. Similar Eo-Cambrian deposits are found in northern Sweden, Svalbard, East and North Greenland, Siberia, China, and Australia. Age of strata (late Precambrian or early Cambrian) has been debated. The East Greenland Eo-Cambrian is here regarded as Lower Cambrian. Lower, Middle, and Upper Cambrian of the fjord zone (72°-74°30′ N.) and the nunatak zone to the west are discussed, also fauna and correlations.

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POULSEN, CHRISTIAN, 1896—, see also Troelsen, J. C., and others. Greenland. 1956. No. 48471.

POULSEN, ERIK MELLENTIN, 1900-, see International Commission for NW. Atlantic Fisheries. Annual proceedings . . 1955-56. 1956. No. 45703.

**47439. POWELL, G. F.** Lubricants for the Arctic. (Ordnance, Jan.-Feb., 1950. v. 34, no. 178, p. 242-44, illus.)

Contains discussion of the development of a technical plan devised in 1947 to design an engine oil with a pour point of  $-65^{\circ}$  F., a low-temperature brake fluid, and an antifreeze. Laboratory and field tests conducted on these materials are briefly outlined.

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47440. POWER, G. Biological work at the George River, northern Quebec. (Arctic, 1956. v. 9, no. 4, p. 271.)

Reports work July-Sept. 1956 on the Atlantic salmon (Salmo salar) population; about 450 were examined (parr, smolts, and mature fish); brook trout and other fish (12 species in all) were studied. B. Bonnlander, who assisted, also collected plants and made microclimatic studies around the base at Helen Falls, approx. 58°10′ N. 65°50′ W. Copy seen: DLC.

POZNÍAK, V., see Rakovskii V. E., and others. K voprosu o genezise tverdykh topliv. 1954. No. 47506.

POZZI, G. C., see Bonadonna, T., and G. C. Pozzi. Osservazioni . . . Gallus gallus . . . 1956. No. 44084.

47441. PRAGER, HANS GEORG, 1925— Orkan in Höhe Bäreninsel; sieben Wochen Eismeerfahrt. Stuttgart, Franckh, 1953. 167 p. illus., maps. Text in German. Title tr.: Hurricane in latitude Bjørnøya; seven weeks' voyage in the arctic sea. An English translation was pub. as: Through arctic hurricanes; adventures of a fishery protection ship, New York, T. Yoseloff, 1956 (copy in DLC).

Account of a trip of the fisheries-auxiliary Meerkatze from Cuxhafen along the Norwegian coast to the fishing grounds located between Bjørnøya (72°26' N. 19°5' E.) and the mainland. In addition to the description of the trip and life aboard ship, the book contains information on the structure and equipment of the Meerkatze, its function; on fishing boats and equipment, especially recent developments in the latter; physical and biological oceanography; fisheries biology; fishing methods; etc.

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47442. PRAT, HENRI. Régimes de la thermogenèse chez la blatte américaine: Periplaneta americana (L); effets d'excitations olfactives; influence de la décapitation. (Revue canadienne de biologie, Feb. 1956. v. 14, no. 4, p. 360–98, illus.) 10 refs. Text in French. Summary in English. Title tr.: Thermogenetic regimens of the American cockroach, Periplaneta americana (L.); effects of olfactory excitations; influence of decapitation.

At a temperature of 31° C., the thermogram of these insects represents a straight or thinly undulated line. From time to time a 2-6 times higher heat flux, lasting 10-15 minutes is observed. Frequency of these heat paroxysms depends on environmental factors as temperature, humidity, air composition, etc. Mechanical, olfactory, visual or sexual stimuli also evoke paroxysms. The effects of removal of the antennae or of the head as well as conditions in the severed head, thorax, abdomen, and in headless insects, were also studied. Copy seen: DLC.

PRÂT, V., see Brod, J., and others. Changes . . . renal haemodynamics and functions . . . cold stimulus. 1956. No. 44140.

PRATER, WILLIAM DWIGHT, 1911-, see David, L. R. Thorium, a bibliography . . . 1953. No. 44553.

47443. PRAVDIN, I. F., and V. S. CHEPURNOV. Akademik Lev Semenovich Berg, 1876–1950 gg. Kishinev, Gos. izd-vo Moldavii, 1956. 106 p. ports. Approx. 800 refs. Text in Russian. Title tr.: Academician L. S. Berg, 1876–1950.

Biography of Academician and President of Geographical Society L. S. Berg, an outstanding Soviet geographer, whose

interests encompassed hydrography, climatology, ichthyology, and history. His main works and his studies of material relating to the arctic and sub-arctic areas are noted. A chronological bibliography is given of his scientific publications, covering 1897–1951 and comprising some 800 items. Copy seen: DLC.

47444. PRECAMBRIAN. Geological mapping of Canada this season. (Precambrian, June 1956. v. 29, no. 6, p. 36,

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Includes notes on proposed mapping during summer 1956 in the Hardisty Lake uranium area 100 mi. south of Great Bear Lake; coastal reconnaissance and study of Triassic fauna and stratigraphy in Eureka Sound, Ellesmere Island; exploratory reconnaissance of northwest Baffin Island; geologic mapping in Glenlyon, Quiet Lake, and Kluane Lake regions, Yukon; study of pollen deposits from southern Ontario north to James Bay; mapping in the Mt. Wright, Wabush Lake, and Kaniapiskau regions, northern Quebec-Labrador. Copy seen: DGS.

47445. PRECAMBRIAN. Mining progress in Alberta and N. W. T. (Precambrian, Aug. 1956. v. 29, no. 8, p. 22–23)

Includes notes on four lead-zinc discoveries in the Whitehorse region and a nickel-copper discovery near Kluane Lake, Yukon Territory. Other silver-lead, lead-zinc and copper prospects have been found in the Canol Road, Pelly River, and Keno areas, and asbestos in the Canol Road and Dawson regions. A 12,500 sq. mi. area in northern Yukon-Mackenzie District (Eagle Plain reservation-Peel Plateau) is under investigation for oil and natural gas. Geologic work has been underway since 1952 and seismic survey should be completed in 1956.

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47446. PRECAMBRIAN. North West Territories mineral production. (Precambrian, Feb. 1956. v. 29, no. 2, p. 10, 12.)

Contains summary of 1955 mining operations and production figures for gold, pitchblende products, silver, tantalum pentoxide, crude oil. Exploration for oil and copper in Mackenzie District, and Canadian Geological Survey mapping by helicopter in Mackenzie, Keewatin, and Franklin District are noted.

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47447. PRECAMBRIAN. N. W. T., Yukon briefs to Commission urge Great Slave Lake Railway. (Precambrian, Jan. 1956. v. 29, no. 1, p. 16.)

Briefs submitted to the (Gordon) Royal Commission on Economic Prospects by Northwest Territories and Yellowknife district ask substantial assistance in construction of a railway from northern Alberta to the south shore of Great Slave Lake; also a road connecting Yellowknife and the Mackenzie Highway. Briefs claim that railroad would bring lead-zinc mine at Pine Point into production, and would pay for itself through taxation on new developments. Brief submitted by Yukon Territory (not discussed) noted climate and transport difficulties in mineral development, present production, taxation.

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47448. PRECAMBRIAN. Oceanic Iron Ore used dog-team-freighting. (Precambrian, Apr. 1956. v. 29, no. 4, p. 19.)

250 tons of iron ore (six tons a day) will be moved 16 miles, from Oceanic Iron Ore of Canada camp to Payne River near Ungava Bay (60° N. 70° W.), by 20 Eskimos, two whites, and 120 dogs. Purpose is to make large samples available for detailed metallurgical testing prior to production. Company has more than 275,000,000 tons of ore indicated by drilling in summer 1955, with an estimated potential well over 500,000,000 tons. Copy seen: DGS.

PREECE, RICHARD M., see U. S Office of Naval Operations. Canadian North. 1956. No. 48635.

47449. PREOBRAZHENSKIĬ, A. I. Gleb Nikiforovich Cherdansev, k 70-letin so dna rozhdenia. (Akademia nauk SSSR. Izvestia, seria geograficheskaa Jan.-Feb. 1956. no. 1, p. 153-54.) Text in Russian. *Title tr.*: G. N. Cherdansev; on his 70th birthday.

Biographical note and tribute to his scientific work and teaching. His participation in reconstruction of the economy of the Karelo-Murmansk province is mentioned.

\*\*Copy seen: DLC.\*\*

47450. PRESCOTT, GERALD WEB-BER, 1901— Notes on the ecology of the freshwater algae of the arctic slope of Alaska. (In: Alaskan Science Conference . . 1952. Proceedings, pub. 1954, p. 46.)

Despite uniformity of topography and

climate, the floral composition varies even in closely associated water bodies. Chemical investigation revealed this to be due to differences in pH, phosphorus and calcium. Plants, recognized as indicators of the kind of pond, are listed.

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47451. PRESTHEGGE, KNUT. Hva husdyrforsøkene viser om laven som för og i ernaering. (Naturen, 1956. Årg. 80, nr. 2, p. 113–28. 3 illus., 2 diagrs., 5 tables.) Text in Norwegian. Title tr.: What research with domestic animals reveals about lichens as fodder and in nutrition.

Experience in World War II increased Norwegian interest in the value of lichens, the so-called reindeer mosses and others, as food for domestic animals. Results of experiments with them are classified and discussed. Restriction of their use to ruminants is established. Botanical analysis of a heath and rate of regrowth are included. Finmark has the widest continuous expanse of these lichens in Norway. Copy seen: DLC.

PREVEDEL, ARTHUR E., see Watkins, D. H., and others. The effect of somatotrophin . . . 1956. No. 48872.

47452. PRĀKHIN, M. I. Opyt kul'tury dekorativnykh rastenii v raione srednei Pechory. (Akademiiā nauk SSSR. Botanicheskii institut. Trudy, 1955, ser. 6, Introduktsiiā rastenii i zelenoe stroitel'stvo, vyp. 4, p. 232–51, 2 tables.) Text in Russian. Title tr.: An attempt at cultivation of decorative plants in the middle Pechora region.

Reports results of experimental cultivation from 1946 to 1953 in the town of Pechora in the taiga region: 48 annual and 16 biennial and perennial species (table 1) were found to grow and bloom in the open, if they are started in the hot house then transplanted into the open in April to mid-May. A few decorative trees and shrubs like balsam maple, Siberian apple-tree, irga, various species of Crategus and Lonicera might be used in parks; they need some cover during cold winters. Flower beds in the city parks are now rather common.

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47453. PRÂNISHNIKOV, A. V. Elementy krafnem severe Vostochno-sibirskogo (Botanicheskil zhurnal, Nov. 1956. t. 41, no. 11, p. 1646-47.)

Text in Russian. *Title tr.*: Elements of steppe-alpine vegetation in the far North of the East Siberian plateau.

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Notes plant formations observed by the author on the Khara-Tas and Yurin-Tas ridge during his trip on the Kotuy River (Khatanga River basin) in 1953. The landscape is typical alpine-tundra: the most common plants are Rhododendron adamsii and Juniperus sibirica; less common species are Festuca supina. Calamagrostis purpurescens, etc.; the plants, including lichens and mosses are listed. Elements of steppe vegetation occur on the slopes: Ptilagrostis mongolica, Carex macrogyna, Festuca supina, etc. Copy seen: DLC.

47454. PRICE, EMMETT WILLIAM, 1896— . North American monogenetic trematodes, II. The families Monocotylidae, Microbothriidae, Acanthocotylidae and Udonellidae (Capsaloidea). (Washington Academy of Sciences. Journal, Apr. 15, 1938. v. 28, no. 4, p. 183-98, 17 illus.) 52 refs.

Contains keys to the subfamilies and genera, and a systematic list of 15 species with diagnoses and data on hosts, locations and distribution. Acanthocotyle williamsi n. sp. (host: skate; location, skin) is described from Aleutian waters (Salt Island). Pt. I of this paper (1937) does not contain arctic material; but pt. III does, infra. Copy seen: DLC.

47455. PRICE, EMMETT WILLIAM, 1896. . North American monogenetic trematodes, III. The family Capsalidae (Capsaloidea). (Washington Academy of Sciences. Journal, Feb. 15, 1939. v. 29, no. 2, p. 63–92, 43 illus.) 51 refs. Contains a systematic treatment of this family, with keys to the subfamilies and genera, synonyms, descriptions of subfamilies, genera and 19 species, of which three are new. Entobdella hippoglossi (Alaska and Greenland) and E. bumpusii (Labrador), are included.

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47456. PRICE, WILLIAM ARM-STRONG, 1889— and B. W. WILSON. Cuspate spits of St. Lawrence Island, Alaska: a discussion. (Journal of geology, Jan. 1956. v. 64, no. 1, p. 94–95.) 7 refs. Also pub. as: Texas. Agricultural and Mechanical College. Dept. of Oceanography. Contribution, oceanography and meteorology series, no. 54.

Discussion of No. 39825. The problem of the formation of cuspate spits can

probably not be separated from those of resonance and the segmentation of elongated water bodies. Writers suggest that standing-wave oscillations or seiches in enclosed or semiclosed bodies of water might have relation to the existence of spits or sand bars. Tank experiments are briefly described. Both single and paired spits could be associated with the nodal areas of seiches in cases where other activities do not overshadow the work of the seiche.—From authors' abstract.

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PRIGOROVSKIĬ, N. N., see Breitfus, L. L. Trudy Murmanskoĭ nauchnopromyslovoĭ ėkspeditsii 1906 goda . . . 1915. No. 44128.

47457. PRINTZ, HENRIK, 1888—. Praktisk bruk av havalger. (Blyttia, 1950. bd. 8, hefte 2, p. 54-69, table.) ref. Text in Norwegian. *Title tr.:* The exploitation of seaweeds.

Possibilities for development of a seaweed collecting and processing industry are excellent in Norway, where northern coasts excel in both quantity and quality of seaweed varieties. The derivatives from red and brown algae, their extraction, nature, and use, and the need and direction of work of high economic value are discussed.

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47458. PRINTZ, HENRIK, 1888—. Vi sanker tang og tare; kort oversikt over de viktigste arter og deres innsamling. Oslo, J. G. Tanum forlag, 1953. 32 p., illus., col. plates, diagrs. Text in Norwegian. Title tr.: We gather seaweed and kelp; short survey of the most important varieties and their collection.

Practical guide for seaweed gatherers. Use, industrial demand, appearance, habitat are stated and handling for commercial use described. Many species grow along the entire Norwegian coast; some have best development in the arctic section, among them Butare said to be used by Eskimos to cover their requirement of vitamins. Copy seen: DLC.

PRIORESCHI, PLINIO, see Arezio, G., and others. Studio sull'ipotermia ipoossica... 1956. No. 43732.

47459. PRIRODA. Pamati Otto Ül'evicha Shmidta. (Priroda, Oct. 1956. god 45, no. 10, p. 3–4, port.) Text in Russian. Title tr.: In memoriam, Otto Ül'evich Shmidt.

Obituary and appreciation of this

prominent scientist, educator and explorer, long associated with arctic investigations; his expedition on the Sedov in 1929–30, on the Sibirūkov in 1932, opening the Northern Sea Route, on the Chelūskin in 1933–34, and the first North Pole drifting expedition are noted.

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PRITCHARD, E. T., see Kline, D., and others. Effect . . . cold environment on labeling . . . rat liver slices. 1956. No. 46003.

47460. PRIVALOV, N. Bol'shoĭ argish. (Ūnyĭ naturalist, Dec. 1956. no. 9, p. 38-39, illus.) Text in Russian. *Title tr.:* The great reindeer train.

Sketches the winter journey of a reindeer sledge-train, laden with gasoline, flour, sugar, salt and tea, from Tura (64°17′ N. 100°15′ E.) to the trading station Yessey (68°30′ N. 102°06′ E.) in the Evenki National District, Krasno-yarskiy Kray. The route along the Kochechuma River, and incidents along the way, including visit to a reindeer kolkhoz camp, are noted. The train consisted of a hundred sledges, with only six Yakut drivers. Copy seen: DLC.

47461. PRIVOL'NEV, T. I. Reakîsina ryb na svet. (Voprosy ikhtiologii, 1956, vyp. 6, p. 3-20, illus., tables.) 11 refs. Text in Russian. *Title tr.:* Reaction of fishes to light.

Following an introduction on the use of artificial illumination in night fishing, the author presents an account of experiments on the effect of light upon more than half a dozen of species of various ages. The response to equal light conditions depended in the main on the species; in addition, age, also the season of the year were of significance in some cases.

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PROKHOROV, S. see Studentsov, P., and S. Prokhorov. Steny vysokol uteplennosti. 1956. No. 48234.

47462. PROKHOROV, S. P. Izuchenie rezhima shakhtnykh vod. (*In:* Moskva. Vsesoûznyl nauchno-issledovatel'skil institut gidrogeologii . . Metodicheskoe rukovodstvo, 1954, p. 80–97, graphs.) Text in Russian. *Title tr.:* Study of ground water in mines.

Methodology of the study is discussed; also (p. 91-92) ground-water conditions in mines in permafrost regions,

especially near the seacoast.

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PROKHOROV, V. G., see Mednikov, B. M., and V. G. Prokhorov. Novyi vid Cyclopteropsis. . . 1956. No. 46680.

PROKOF'EV, GEORGII NIKOLAE-VICH, 1897–1942, see Prokof'eva, E. D. Nenfsy. 1956. No. 47464.

PROKOF'EV, GEORGII NIKOLAE-VICH, 1897–1942, see also Prokof'eva, E. D. Sel'kupy. 1956. No. 47465.

47463. PROKOF'EVA, E. D. Khanty i mansi. (In: Akademiā nauk SSSR. Institut ėtnografii. Narody Sibiri, 1956. p. 570–607, illus. col. plate.) 80 refs. Text in Russian. Title tr.: Ostyaks and Voguls.

Outlines the distribution (mainly Ob' basin), tribal names, languages (also dialects) and history of these ethnic groups. Their exploitation during the centuries of Russian colonization is noted. Population data (1926 census) are given: Ostyaks 17,800, Voguls 5,700; and the native economy and customs of pre-Revolutionary times are described: hunting, fishing, reindeer herding and rudimentary agriculture; food (mainly meat and fish), transportation, settlements and housing, clothing, tribal organization and religious beliefs (ancestor worship, totemism, blood feuds, shamanism). Radical changes followed the Revolution: collectivization (selected data 1931-1953 given on kolkhoz incomes etc.), introduction of new and development of old trades due to research (e. g. acclimatization of new fur animals like muskrat, mink and sable), creation of new industrial or cultural centers, emancipation of women, education, etc. Paper prepared in collaboration with V. N. Chernetsov and N. F. Prytkova. Copy seen: DLC.

47464. PROKOF'EVA, E. D. Nentsy. (In: Akademifa nauk SSSR. Institut étnografii. Narody Sibiri, 1956. p. 608-647, illus.) 48 refs. Text in Russian. Title tr.: Nentsy.

Gives population statistics for the Samoyed people (16,375 in 1926), their past and present distribution (now roughly 44°-114° E. along the arctic coast, on Kolguyev Island and Novaya Zemlya), tribal subdivisions, linguistic and racial affinities, etc. The native economy (reindeer herding, hunting and fishing) transportation, nomad tents (chum) and camping, food and clothing are described. Social and family organizations, religious beliefs, etc., are outlined. The participa-

tion of Samoved communists in the Russian Revolution is mentioned and basic changes brought about by the Soviet regime are discussed: collectiviza-(virtually completed in 1950), introduction of advanced farming techniques and equipment, settling of nomad herders and hunters, land reclamation, introduction of log and frame houses, education, emancipation of women, disappearance of old taboos, etc. Modern Samoyed scientists, et al., are cited. The pre-Revolutionary period is described from an (unpublished?) article by the late G. D. Verbov and G. N. Prokof'ev. Copy seen: DLC.

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47465. PROKOF'EVA, E. D. Sel'kupy. (In: Akademiâ nauk SSSR. Institut étnografi. Narody Sibiri, 1956. p. 665-86, illus.) 19 refs. Text in Russian. Title tr.: The Selkups.

Distribution of this Samoyed people (now mainly in Yamal Peninsula and the Ob' basin south to approx. 58° N.), their racial affinity, tribal names, language, history, etc., are sketched. Population (approx. 6,000 in 1926) data are Their native hunting economy, with reindeer herding among the northern tribes, and customs, the use of draught animals and boats, their food (mainly fish) clothing, settlements and housing (log-reinforced mud houses, etc.), are discussed. The tribal organization (phratries and clans, the latter named after totem animals), class society, position of women (higher than among most other northern peoples), religious beliefs (shamanism, plurality of souls, totemism), folklore, etc., are discussed. The changes under the Soviet regime are described: resettlement of the Sel'kups in the upper Ob' basin between the Narym and the Tym (approx. 69°-80° E.), creation of kolkhozes, with fur animal farming, expansion of fishing and reindeer herding, lumbering, introduction of agriculture and animal husbandry; education, health services, etc. The use of materials written by the late G. N. Prokof'ev is acknowledged. Copy seen: DLC.

47466. PROKOSHEV, V. N. Za vysokie urozhai na peschanykh pochvakh Severa. Berezniki, 1941. 26 p. tables. Text in Russian. *Title tr.:* For high crops on the sandy soils of the North.

Account of activities of the Agriculture Experiment Station at Solikamsk (approx. 59°30′ N. 56°40′ E.) in acclimatization of wheat and increasing potato

crops. The report covers a period of 12 years. Successive sections deal with introduction of wheat into the North: preparation of soil, melioration, sowing and sowing periods, crops; improving the potato yield, soil preparation, melioration, etc.; alkalizing the peat soils; green fertilizers; mineral fertilizers and their effective use, including use of local potash; utilization of science. Copy seen: DLC.

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47467. PRONCHENKO, G. S. Apatito-nefelinovoe mestorozhdenie IUkspora. (In: Khibinskie apatity, 1933. t. 6, p. 29-34, table.) Text in Russian. Title tr.: Apatite-nepheline deposits in Yuk-

Survey of deposits of the Kukisvum-Yukspor and Apatity strata is described on the basis of 41 drill holes. Work in the first region was completed in 1931 and capacity of the spotted ores (A and B category) estimated as about 145 million tons, with average content of phosphoric anhydride (P2Os): 29.1 The capacity of spotted and percent. banded ores of A and B category was estimated about 45 million tons with average content (P<sub>2</sub>O<sub>5</sub>): 26.5 percent. The Yukspor region is similarly described, in its various sections, geological characteristics indicated, etc. Results are summarized in table (p. 34).

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47468. PROTOD'ĀKONOV, V. Okhotnik zapolfār'fā. (Okhota i okhotnich'e khozfālstvo, Jan. 1956. no. 1, p. 54-57, illus., port.) Text in Russian. Title tr.: Hunter from the polar region. Sketches winter fox trapping in the Anabar basin by a kolkhoz hunting team headed by a distinguished hunter, A. V. Androsov; the kolkhoz's annual catch of fur animals is valued at 200-250 thousand rubles. Copy seen: DLC.

47469. PRUSSAK, B. N. Mashiny dlfa zimnego soderzhanifa dorog. (In: Spravochnik inzhenera dorozhnika, t. 8, Dorozhno-stroitel'nye mashiny. Moskva, 1952. p. 505-519, tables, diagrs.) Text in Russian. Title tr.: Machines for winter road maintenance.

"The construction of highway snowplows used currently in the U. S. S. R. is described in detail, and data on their performance are tabulated. The D-45 (double plow V-type) and D-151 (single hydraulic moldboard) truck-mounted snowplow are used for fresh snow, and their performance averages about 3-4 hectare/hr. Deep dense snow and drifts are removed by the D-180B tractor-mounted snowplow and the D-166 truck-mounted rotary plow. These plows can handle snow 1.2 m. and 1.4 m. deep, respectively. Detailed diagrams of the plows are included."—SIPRE.

Copy seen: DLC.

47470. PRYTKOVA, N. F. Glinîanafa posuda fakutov. (Akademifa nauk SSSR. Muzel antropologii i étnografii. Sbornik, 1955. t. 16, p. 147–64, illus.) 10 refs. Text in Russian. *Title tr.:* Earthenware of the Yakuts.

Discusses pottery making in Yakutia in the 19th and early 20th centuries. Kinds of clay, tools and methods for digging and mixing it, hand-molding techniques, ornamentation and firing of vessels, etc. are described. Though this art was widespread in most of the region, it was virtually unknown in the Kolyma River basin, the northern part of the Vilyuy District and the lower course of the Lena, along the Olenek, Khatanga and Anabar Rivers.

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PRYTKOVA, N. F., see also Prokof'eva, E. D. Khanty i mansi. 1956. No. 47463.

47471. PUCKETT, LOWELL M. Public land policy as it affects social and economic development of Alaska. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 164–68.)

Describes U. S. policy in public lands disposal since the Revolution; the homestead law of 1862 was extended to Alaska in 1898, and most land privately held has been granted under its terms of farming and habitation. Due to veterans' exemption and others' evasion of the cultivation requirement, also to some homesteaders' poor choice of sites (without regard for roads, markets, climate, soils), full-time farmers are the exception and only some 12,000 acres are tilled. Recent land use studies by the Bureau of Land Management are described: its surveying and opening of small tracts (average 11/4 acres) for homesites near cities, and social and economic changes resulting from these new policies, are reviewed. Copy seen: DGS.

47472. PUDOVKIN, I. M. Magnitnye variatsii v vysokikh shirotakh. (Akademita nauk SSSR. Izvestifa, serifa geofizicheskafa, July 1956, no. 7, p. 83537, graphs.) Text in Russian. Title tr: Magnetic variations in the high latitudes.

English translation with notes by E. R. Hope, pub. by Defence Research Board of Canada, Directorate of Scientific Information Service, Ottawa, Nov. 1956, its: T233R, (5 p.) copy at CaMAI.

The magnetic field variation was recorded at seven Soviet stations located between approx. 67° and 73° N. lat. during the period July 1–Sept. 30, 1953. Variations were found to be due to causes having an extremely non-homogeneous structure. No new experimental results were noted. To make further progress in understanding the nature of geomagnetic variations, several years' recording of high-latitude variations will be required at a group of stations 200-300 km. apart. Copy seen: DLC.

47473. PUDOVKIN, I. M. O variafsifākh magnitnogo polfā pri proizvodstve tochnykh regional'nykh aėromagnitnykh s''emok. (Akademifā nauk SSSR. Izvestifā. Serifā geofizieheskafā, 1956. no. 8, p. 997–98, table, diagr.) Text in Russian. Title tr: Variations in the magnetic field during precise regional aeromagnetic surveys.

Contains discussion supplemental to No. 47472 and correction of data on variations according to time and region (diagrams, table). The corrections are applicable in both polar regions.

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47474. PUGH, L. G. C. E., and O. G. EDHOLM. The physiology of survival in cold water. (Polar record, May 1956. v. 8, no. 53, p. 176.)

Notes on studies of long distance swimmers aimed at elucidating their ability to survive in cold water 2-3 times longer than average men: such swimmers are fat, "many grossly so," and thus well insulated against cold. They also can maintain a moderate energy expenditure for a long time. Copy seen: DLC.

**47475. PURCELL, FRANCIS X.,**  $J_T$ . The best go north. (United States air services, Jan. 1955. v. 40, no. 1, p. 7–9, illus.)

Contains an account of the author's visit to construction sites in the far North while Deputy Commander of the U. S. A. F. Aviation Engineer Force. Work of the aviation engineers at these sites is described briefly. The facilities and environment of one unnamed station are described.

Copy seen: DLC.

47476. PURVES, P. E. The wax plug in the external auditory meatus of the Mysticeti. (Great Britain. Discovery Committee. Discovery reports, 1955. v. 27, p. 293–302, illus., table.) 8 refs.

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A gross and microscopic study of the wax plugs of Balaenoptera physalus; its structure, chemical composition and acoustic (damping) properties as well as X-ray pictures are also discussed.

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47477. PUSHKAREV, A. D. 0 termoregulfaîsii pri gipotonii. (Klinicheskafā medifsina. May 1956. god 37, t. 34, no. 5, p. 80–84, tables.) Text in Russian. *Title tr:* On thermoregulation in hypotonia.

Account of investigation on skin temperature of the various areas of the body in normal and hypotonic subjects. Regional differences were observed as well as a certain asymmetry in temperature distribution in normal persons. In hypotonic persons there was a tendency toward a more uniform distribution of skin temperature and a lowering of it in the distal parts of the upper extremities.

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47478. PUSHMENKOV, E. P. K faune trikhostrongilid sychuga severnykh olenef. (In: Vsesofüznafa akademifa sel'skokhozfälstvennykh nauk. Raboty po gel'mintologii, 1937. p. 550–59, table, illus.) Text in Russian. Title tr: The trichostrongilid fauna found in the abomasum of reindeer.

A study of parasitic nematodes from two abomasa, all found to belong to the genus Ostertagia Ransom, 1907. Among the 36,000 specimens, nine species were identified, three of them new: O. petrowi, O. polarica and O. taliana. Morphology and anatomy of both sexes, frequency, morphometry and differential diagnosis are dealt with.

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47479. PUTNINS, P., and N. A. STEPA-NOVA. Climate of the Eurasian Northlands. [Washington, D. C.] 1956. vi, 104 p. charts, maps, tables incl. 2 fold. (In: U. S. Office of Naval Operations. The dynamic North, v. 1, no. 4.) 128

The climate of the general area north of 60° N. and between 10° and 170° E. is described under three broad headings: dynamic and aerological climatology, surface climate, and climatic changes. The general circulation patterns near the surface and aloft, and their meteorological

and climatic effects are discussed. Seasonal weather phenomena and the occurrence and distribution of clouds, fog, snow, permafrost, and river ice are included. Trends in winter and annual temperatures are cited to support the belief that the climate of the region became milder in the 20th century. A list of stations used and their geographical coordinates are included.

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47480. PUZAKOV, N. A. Ustanovlenie raschetnogo znachenia modula deformatsii grunta v zavisimosti ot prirodnykh uslovil konstruktsii dorogi. (In: Moskva. Avtomobil'no-dorozhnyl institut. Opredelenie modula deformatsii gruntov, 1955. p. 37-41.) Text in Russian. Title tr.: Determination of rated value of modulus of soil deformation in respect to natural conditions and road construction.

Contains discussion of the practical application of the modulus of deformation in the design of foundations for roads, buildings or other constructions, subjected to seasonal changes, particularly due to freezing and thawing. effects of repeated loadings, changes of ground volume due to heaving or sagging, zonal and climatic changes (tundras, forest, steppe, desert, etc.) are described. In designing new roads, consideration should be given to modulus of deformation of existing roads under similar con-This can be expressed by the "equivalent" and "actual" moduli, corrected for climatic and hydrological conditions and the type of construction.

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PUZANOV, V. P., see Akademiîa nauk SSSR. Institut geografii. Sneg i talye vody. 1956. No. 43523.

47481. QUAM, LOUIS OTTO, 1906—. The arctic research program of the Office of Naval Research. (Association of American Geographers. Annals, June 1956. v. 46, no. 2, p. 269–70.)

Contains abstract of paper presented at the 52nd Annual Meeting of the Association, Montreal, Apr. 1–5, 1956. The greater part of this research on arctic environment and its effects on life and human activities is carried out at the Arctic Research Laboratory, Point Barrow, Alaska, in operation since 1948. Civilian research institutions and universities conduct most of the program. The University of Alaska administers the Laboratory. Participation of various re-

search groups to date and program for 1956 field season are briefly described. **Copy seen:** DGS.

47482. QUAM, LOUIS OTTO, 1906—Scientists are learning more about the Arctic. (U. S. Office of Naval Research. Research reviews, May 1956. p. 16–23, illus., map.)

Contains an historic. I review of exploration and research, particularly American and Russian, in and around the north polar basin. Post-war activities of the Russians are emphasized. The American and Canadian effort is similar though less intensive and less regimented. Research in the Arctic has been accelerated because of increased accessibility and awareness of the strategic significance of the area.

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47483. QUAY, WILBUR BROOKS, 1927— . Distributional notes on small mammals in northern Manitoba, Canada. (Journal of mammelogy, Feb. 1955. v. 36, no. 1, p.123.)

Three species found among others during Aug. 16-23, 1953, at Churchill, are noted to be outside the known limits of their range. These are Sorex cinereus, Lemmus trimucronatus and Synaptomys borealis. Hitherto known distribution, size, etc., are given. Copy seen: DA.

47484. QUAY, WILBUR BROOKS, 1927 . Further description of Polyplax alaskensis Ewing; Anoplura. (Psyche, Dec. 1949. v. 56, no. 4, p. 180–83, 2 illus.)

This flea parasitic on mice (Microtus o. operarius) is redescribed on the basis of 24 specimens of both sexes, collected at Cloud Lake (near Asses Ears), Seward Peninsula, Alaska, July 27, 1948.

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47485. QUAY, WILBUR BROOKS, 1927 Histology and cytochemistry of skin gland areas in the caribou, Rangifer. (Journal of mammalogy, 1955. v. 36, no. 2, p. 187–201, illus.) 13 refs.

A study of skin of an adult male and female. The skin was from the tarsal gland, fore- and hind-foot interdigital glands and from the preorbital pocket. Except for the tarsal gland, there were no sexual differences in the development of the glands; but there were developmental, cytological and cytochemical differences between the glands from the four areas.

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QUENEAU, PAUL, see Hanson, H. C., and others. The geography, birds, and mammals . . . Perry River . . . 1956. No. 45431.

47486. QUINN, HAROLD ARTHUR.
1911— . Mineral occurrences between
Chipewyan and Herb Lakes, Manitoba.
(Precambrian, 1956, v. 29, no. 10, p.
6–14; no. 11, p. 6–12; and 1957, v. 30, no.
1, p. 28–33, illus., text map.) 61 refs.
Summary in Mining magazine, Dec. 1956.

v. 95, no. 6, p. 372-74.

The 24,500 sq. mi. area (54°53'-58° N. 97°18'-100°17' W.), includes Big Sand Lake, Southern Indian Lake, and Churchill River basins; its exploration and mapping 1793-1955 are described. Elevations above sea level range from 850 ft. in the southwest to 1,100 ft. in the northwest. The northern half is characterized by many large eskers, kames, and more abundant bedrock outcrops than the southern half. Permafrost occurs in low ground. The Precambrian bedrock consists (oldest to youngest) of volcanic and sedimentary rocks, sedimentary and mixed gneisses, granitic rocks (which predominate), basic and ultrabasic intrusives, and granitic pegmatite and aplite. volcanic-sedimentary rocks, gneisses, and granites have undergone at least two periods of deformation, and display complex folding. The two major northeasttrending faults, the volcanic-sedimentary belts, and the basic intrusives are most favorable for base metals, but gneiss areas are also under investigation. erals found to date are listed, and locations of occurrences (74) are listed and described. Copy seen: DGS.

47487. QUINN, HAROLD ARTHUR, 1911- . Mineral occurrences in Manitoba. (Western miner, Aug. 1956. v. 29, no. 8, p. 38-41, illus., text map.)

Contains description of areas 55°-58° N. 98°-100° W., east of the Sherridon-Lynn Lake railway, and including the basins of Northern and Southern Indian Lakes (expansions of the middle reaches of Churchill River). Exploration and drilling there followed discovery in 1945 of nickel-copper ore at Lynn Lake. Surface formations and general geology are described. Most of the region is underlain by granitic rocks and by granitized and hybrid gneisses. However, several belts of volcanic and sedimentary rock favorable for metallic

mineral occurrences have been found. Ten mineral localities are described.

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**47488. R., P.** Exploring Greenland. (WMO bulletin, July 1956. v. 5, no. 3, p. 118-19.)

In Apr. 1956, plans were made in Switzerland for International Glaciological Expedition to Greenland, 1957-1960. Sponsored by Commission for Snow and Ice, International Association of Scientific Hydrology, and led by P-£. Victor, it will be coordinated with the IGY program. Meteorology, glaciology, geophysics, and geodesy will be studied by parties on both coasts and the inland ice. Previous expeditions from 16th to 20th centuries are noted.

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47489. RÅSTAD, H. Erfahrungen über Vereisung von Fernleitungen in norwegischen Gebirgen (Auszug). (Wetter und Leben, Jan. 7, 1955. Jahrg. 7, Heft 8-11, p. 196-99.) Text in German. Title tr.: Experience with icing of trunk lines in Norwegian mountains (excerpt).

Contains discussion of factors influencing ice formations on overhead lines on the basis of investigations in southern Norway. Selected examples are given. The factors examined include: elevation, topography, wind, temperature, and wire diameter. Little or no ice formation was observed in areas protected from the wind by a terrain elevation of 50 m. while on lines exposed normally to the wind, ice reached up to 14 kg./m. No definite relation between ice loads and elevation was found other than a temperature effect. No effect of wire diameter on ice loads was noted. The maximum ice deposit recorded was 90 cm. in diameter. Copy seen: DLC.

47490. RABOT, CHARLES, 1856-1944. Au Cap Nord; itinéraires en Norvège, Suède, Finland. Paris. Librairie Hachette et Cie., 1898. (328 p. 10 illus., 23 plates, 4 maps incl. 1 fold., 14 tables.) over 40 refs. in text. Text in French. Title tr.: To the North Cape; itineraries in Norway, Sweden, Finland.

Composite account of six summers' excursions (1880-1885) in arctic Scandinavia, partly in journal form. Landscapes and their geomorphology, climate, flora and fauna, inhabited places and occupational developments are treated, as well as the diverse national and racial

groups, social forms, degree of culture, and adaptation to environment.

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A coastal journey from Trondhjem to Nordkap is described (p. 1-62) with topographic details of the strandflat and mainland as seen from the sea; the three arctic provinces of Norway, Nordland, Troms, and Finmark are differentiated; changes in sea level, agricultural activities, forest, glaciers, fisheries, administrative services, the Lapps and their distribution, are treated in turn.

Chap. 3 deals with the lakes and glaciers of southern Nordland; the topographic development of northern Scandinavia is reviewed, mountain, continental (plateau), and intermediate glaciers are distinguished. Detailed account is given of journeys in 1882 and 1883: from Mosjøen, on the Vefsnfjord, to the Store Børgefjell plateau, and from Korgen in Ranfjord to the Okstind locality on the Norwegian-Swedish border, with local place names, topographic description, elevations, and the nature of human occupance.

Rabot's explorations of Svartisen and adjacent glaciers, between Beiarnfjord and Ranfjord are recounted (p. 99-140) with map showing distribution of all ice fields. These he attributes to over-abundant precipitation rather than

cold climate.

Chap. 5 treats of the Lapps, their numbers, distribution, clothing, occupation and habitat, also possible origins of the Reindeer husbandry, its term, Lapp. animal, insect, and epizootic risks; the regimen, winter and summer forage plants; fishing and its seasonal hardships; sedentary occupations and the need for some changes from traditional Lappish ways, are discussed. classic description is given (p. 165-231) of Swedish Lapland, which reaches south as far as 64° N. From the mountainous coast of Norway, eight passageways are indicated to the eastern slope of northern Sweden, which is described topographically in decreasing elevation as mountain, lake or bog, forest, and coastal land. Each of these is distinguished at various localities along courses of the Ume, Pite, Lule, Skellefte, Kalix, and Torne Rivers. Changes resulting from ore mining and railroad building are considered. Major topographic elevations of the Gällivare, Sarek, Kebnekaise, and Sulitjelma localities are described, and their glaciers classified.

Chap. 9 describes coastal Norway north of the strandflat; fishing and whaling ac-

tivities of Svend Foyn; the bird colony of Svaerholtklubben; role of coastal sites and activities in the colonization and development. The treelessness of certain localities is attributed to effects of the wind. Northeasternmost Norway is treated in chap. 10: its geography and intermingled people. Strandlines are measured at several places and a difference in land elevations is noted along the coast and between coastal and interior locations. Tundra and forest are described in Varangerfjorden and the Pasvik valley. Russian Lapps are described, and the term "Skolt" (Norwegian for "skull") is related to their Russian custom of shaved heads. Among the many localities described throughout the book is Boris-Gleb, the Skolt village, which Rabot visited on his journey up the Pasvik River to Lake Inari in Finland.

Appended (p. 307-326) is practical information for the traveler on fjord trips, overland tours, mountain ascents, yacht cruises, also hunting and fishing excursions. Equipment, means of travel,

expenses, etc., are noted.

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47491. RABOT, CHARLES, 1856–1944. Revue de glaciologie. (*In:* Commission française des glaciers. Rapport . . . 1900–1901. Paris, Protat Frères, 1902. p. 39–92, tables.) 80 refs. Text in French. *Title tr.:* Review of glaciology.

A synopsis is given of the progress made from 1888-1901 in the study of glaciers. Investigations on the physics and mechanics of glaciers, and associated morphological phenomena are reviewed. Glacier explorations are summarized, including such in Swedish Lapland, Svalbard, the Arctic and Antarctic; observations on glacier variations are noted, Alaskan glaciers, among others. Representative data are tabulated.—From SIPRE.

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**47492. RADCLIFFE, W. E.** The Dividal. (Alpine journal, Nov. 1956. v. 61, no. 293, p. 382-83.)

Brief description of the little-known Divi River region of North Norway (approx. 68° N. 20° E.), based on visit by parties of Scouts, geologists, botanists, and climbers (including the writer) in Aug. 1956. Methods of access, scenery, climbing and walking possibilities of the region are noted.

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47493. RADFORTH, NORMAN WIL-LIAM, 1912- . The application of aerial survey over organic terrain. (In: National Research Council of Canada. Associate Committee on Soil and Snow Mechanics. Proceedings of the Eastern Muskeg Research Meeting, February 22, 1956. Ottawa, Oct. 1956. Technical memorandum, no. 42, p. 25–30, 5 illus.) 2 refs. Similar text pub. in Roads and engineering construction, Aug. 1956, v. 94, no. 8, p. 96, 98. Copy in DLC.

Contains information on evaluation of organic terrain by aerial survey methods. The widespread occurrence of muskeg in Canada, particularly in the Northwest is a major factor in the inaccessibility of the The characterization of organic terrain can be obtained even with surveys made from altitudes of 30,000 ft. Five air-form patterns predominate: dermatoid, stipploid, terrazoid, reciculoid, and marbloid. Through correlation of low and high altitude air-form characteristics of known type conditions, the physical properties of the peat for unknown cases are derived, also physiographic conditions, vegetative cover, etc., information applicable to problems of construction, trafficability and transport, forestry, etc. Some examples are given.

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47494. RADFORTH, NORMAN WILLIAM, 1912– . Muskeg access, with special reference to problems of the petroleum industry. (Canadian mining and metallurgical bulletin, July 1956. v. 49, no. 531, p. 473–79, 8 illus., 6 tables.) 10 refs. Also pub. in: Oil in Canada, Aug. 6, 1956, v. 8, no. 40, p. 62 (15593)–82 (15613); National Research Council of Canada. Associate Committee on Soil and Snow Mechanics. Technical memorandum, no. 43.

Contains discussion of the definition of the term muskeg, its character and classification; the living layer, peat layer, organic-mineral contact layer, mineral sub-layer; topographic features and their significance to vehicles; air-form patterns (1,000-5,000 ft. and 30,000 ft.) and their meaning; aerial interpretation for trafficability; application of principles for field operations. Copy seen: DGS.

47495. RADFORTH, NORMAN WIL-LIAM, 1912 - Organic terrain organization from the air: altitudes less than 1,000 feet. Handbook no. 1. Ottawa, Oct. 1955. 49 p. 24 illus., 3 tables. (Canada. Defence Research Board. DR no. 95.) 4 refs.

Handbook for reference use in field

reconnaissance or at experimental and operational centers; results of study to determine feasibility of aerial interpretation of surface and subsurface conditions in the muskeg areas of northern Canada. Structural differences in organic terrain, related physiographic conditions, methods, recognition and assessment are presented. Working up results of aerial inspection, map preparation and terrain construction are dealt with. Attached are paired photographs showing specific terrain features at ground level, and from the air (usually 150 ft.). Topographic, vegetative, and color factors are tabulated to assist observers in recognition and recording of features. Handbook no. 2, based on altitudes 1,000-5,000 ft., is in preparation. Copy seen: DGS. 47

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47496. RADFORTH, NORMAN WIL-LIAM, 1912- . Range of structural variation in organic terrain. (Royal Society of Canada. Transactions, 1955. Third ser., v. 49, sec. 5, p. 51-67, 16 illus., sketch map, graph, 2 tables.) 5 refs. Also pub. as: National Research Council of Canada. Associate Committee on Soil and Snow Mechanics. Technical memorandum. no. 39.

A classification system for microscopic constituents of the peaty matrix of organic terrain is needed for both ground studies and aerial interpretation. Two sets of terms for categories of peat structure are presented and discussed. One was compiled by A. P. Dachnowski-Stokes, q. v., in 1924, the other by the author after examination of nearly 500 peaty samples in the Churchill, Manitoba, region. Illustrations of each of the author's 16 categories are provided. Biological justification of structure categories, and bearing capacity assessment are discussed.

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47497. RADIGAN, LEO ROBERT, 1923-, and others. Myocardial failure in experimental hypothermia. (Surgical forum, 1956. v. 6, p. 137-40, illus.) Ref. Other authors: T. A. Lombardo and A. G. Morrow.

Hypothermic dogs subjected to occlusion of blood inflow and right ventriculotomy, showed symptoms of myocardial failure. This was partially reversed by a rapid-acting digitalis preparation, acetyl strophantidin. Digitalization also increased survival and lowered the incidence of ventricular fibrillation. The causes of myocardial failure are discussed and analyzed.

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47498. RADIGAN, LEO ROBERT, 1923-, and others. The prevention of ventricular fibrillation in experimental hypothermia; procaine infiltration of the superior atriocaval junction. (Surgery, Sept. 1956. v. 40, no. 3, p. 471–74, illus.) 6 refs. Other authors: T. A. Lombardo and A. G. Morrow.

Procaine infiltration prevented ventricular fibrillation in hypothermic dogs subjected to right ventriculotomy; in control animals the incidence of ventric-

ular fibrillation was 90 percent.

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47499. RADNÓT, MAGDA, and T. ORBÁN. A fény hatása a pajzsmirigy működésére. (Szemészet, Mar. 1956. 93 évfolyam, no. 1, p. 1-3, illus. table.) 14 Text in Hungarian. Summary in Russian and German. Title tr.: The influence of light upon thyroid function.

Illumination was found to cause activation of the thyroid of the duck. tinuous illumination causes thyroid hyperactivity, loss of weight, reduction of gonadal function, etc. The light affects the neuro-endocrine system via the eye Copy seen: DNLM. and retina.

RADOUCO-THOMAS, C. see Frommel, E., and others. De l'influence des substances neuroplégiques . . . la regulation thermique. 1955. No. 44990.

RADULOVIĆ, JEVTO, see Giaja, J., and J. Radulović. De l'action stimulante cardiaque . . . 1956. No. 45091.

RADULOVIĆ, JEVTO, see also Giaja, J., and J. Radulović. Survival of the heart . . . deep hypothermia. 1956. No. 45095.

RADVILLOVICH, K. A., see Centkiewicz, A., and C. J. Centkiewicz. Zavoevanie Arktiki . . . 1956. No. 44300.

47500. RADZIEVSKII, G. B., and IA. L. SHEKHTMAN. Obrazovanie kristallicheskogo l'da v zernakh pshenitsy pri glubokom okhlazhdenii. (Kolloidnyl zhurnal, Jan.-Feb. 1956. t. 18, vyp. 1, p. 77-82, illus. diagr.) 7 refs. Text in Title tr.: Formation of Russian. crystalline ice within wheat grains during excessive cooling.

The method and apparatus of X-ray structural analysis of ice formed within the grains are described, and the effects of the moisture content of the grains on ice formation are reported. Ice crystals formed with moisture content near 85 percent; ice was never observed in grains at a moisture value less than 34 percent, because part of water is in the "bound" condition, even at temperatures down to —120° C. Ice formation was more intense in the endosperm than in the seed. Obtained results lead to revision of the theory of "vitrification", introduced by B. I. Luyet and others.-From SIPRE. Copy seen: DLC.

47501. RAEFF. MARC. Siberia and the reforms of 1822. Seattle, University of Washington Press, 1956. xvii, 210 p. text map. (University of Washington publications on Asia.) Approx. 200 refs.

Analysis of factors in change of Siberia from a neglected and exploited colony in the 16-17th centuries to a valuable province and organic part of Russia in the 19th. Emphasis is laid on the change in political attitude towards Siberia of Russian statesmen in the reign of Alexander I and the resulting legislation which culminated in the statutes of 1822. In two parts, the book deals first with the Russian population in Siberia: administration, social and economic life from the 16th century to 1805, during the governorships of Pestel and Treskin 1805-1819, and Speranskil from 1819; the statutes of 1822, political, social and economic consequences. The second part takes up the situation of the native peoples of Siberia (including those of the far North) during the same period, changes in social and economic conditions and in native administration. pendices deal with agriculture among the Buryats, Speranskii's views on freedom of trade, organization of the Siberian administration, and classification of na-Bibliography lists source tive peoples. material, contemporary works and periodicals, secondary works; the Russian administration and Siberian natives are specifically covered.

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47502. RAEVSKIĬ, A. N. K voprosu o povtorfaemosti gololeda. (Meteorologifa i gidrologifa, Jan. 1953, no. 1, p. 28-31, table, graphs.) Ref. Text in Title tr.: Glaze frequency.

"The effects of relief and meteorological conditions on glaze distribution are analyzed on the basis of observations made at 128 locations from 1946-1951, and of long-period data collected at various points in the U.S.S.R. Variations in glaze frequency are tabulated for eight distinguishable relief forms.

max. number of days with glaze occurred in open terrain several tens of m. above the surrounding area, or on slopes exposed to the wind."—SIPRE.

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RAGLE, R. C., see Chapman, R. M., and others. Geological and geographical research in Alaska's future development . . . 1954. No. 44311.

RAGLE, RICHARD H., see Benson, C. S., and R. H. Ragle. Measurements . . . SIPRE in 1955 . . . accumulation markers . . . 1966. No. 43965.

47503. RAHANDRAHA, THOMAS, and A. R. RATSIMAMANGA. Effets comparatifs de précurseurs de corticostéroïdes incubés en présence de surrénale scorbutique ou normale sur la résistance au froid de rats surrénaloprives. (Journal de physiologie, 1956. t. 48, no. 3, p. 696-97, table.) 3 refs. Text in French. Title tr.: Comparative effects of corticosteroid precursors, incubated in presence of scorbutic or normal adrenals, on resistance of adrenalectomized rats to cold.

Report on experiments with adrenalectomized rats exposed to 0° C. The results indicate that vitamin C plays an essential role in the biosynthesis and turnover of corticosteroids active in resistance to cold. The vitamin thus ensures the physiological activity of the corticosteroids. Copy seen: DNLM.

RAINBOTH, R. J., see Jowitt, S., and R. J. Rainboth. Radar altimeter activities . . . 1967. No. 45833.

RAINEY, FROELICH GLADSTONE, 1907—, see National Geographic Society. National Geographic on Indians . . . 1955. No. 46941.

47504. RAKHMANOV, V. V. Vlifanie lesov na formirovanie snezhnykh zanosov. (Meteorologifa i gidrologifa, Nov. 1956, no. 11, p. 21-28, tables, graphs.) 24 refs. Text in Russian. Title tr.: Influence of the forest on formation of snow cover.

Snow accumulation in forest and field is analyzed on the basis of observations from 84 hydrometeorological stations and posts in European and Siberian U. S. S. R. and comparisons are made with earlier data. The accumulation is evaluated in terms of height and density of snow cover, represented by height (mm.) of the water layer in a sample snow column of the same diameter. The coefficient of snow

accumulation is represented by the ratio of water (mm.) in the forest sample to that in the field sample. The average ratio for different regions varies from 1.14 to 1.21. Snow accumulation in forests is generally higher (10–30 percent) than in fields. Variations in the coefficient are attributed to the character of the forest (coniferous or foliate) and by average climatic changes during winter.

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RAKHMANOV, V. V., see Akademiîa nauk SSSR. Institut geografii. Sneg i talye vody. 1956. No. 43523.

47505. RAKOVSHCHIK, M. E. Issledovatel'skie raboty po Kol'skomu Gorno-Khimicheskomu Kombinatu. (In: Khibinskie apatity, 1933. t. 6, p. 59–62.) Text in Russian. Title tr.: Research work in the Kol'skiy mining and chemical combine.

Recovery of aluminum oxides, thermophosphates and cements from apatitenephelinic ores is discussed. The combination of large ore deposits and sources
of cheap power favors construction of an
industrial center in the Khibiny. Research work in each branch of this combine and development of practical methods are described. Laboratory work
also includes recovery of other products
from the ores. Copy seen: DGS.

RAKOVSKAÑ, M., see Rakovskii, V. E., and others. K voprosu o genezise tverdykh topliv. 1954. No. 47506.

47506. RAKOVSKIĬ, V. E., and others. K voprosu o genezise tverdykh topliv. (Akademiâ navuk BSSR, Minsk. Instytut torfa. Trudy, 1954. t. 3, p. 79–94, tables.) 10 refs. Text in Russian. Other authors: V. Poznîâk, M. Rakovskaß, and V. Shimanskiĭ. Title tr.: Problems in the genesis of solid fuels.

Processes of peat formation are analyzed in respect to the plant materials involved, and to chemico-technological classification of peat. The effects of the original plant composition, particularly of the bituminous and humic acid content, are differentiated in the separate peat layers. Analyses are given for foliate and coniferous brushwood and ligneous species, for mosses and peat, for fossil lignia, also for microorganisms: bacteria, yeast and fungus (Aspergillaceae). Summary conclusion for each type is included. Copy seen: DLC.

47507. RAKOVSKIĬ, V. E., and others. TorfiânoI degot' steklozavoda imeni Stalina i puti ego ispol'zovanifa. (Akademifa navuk BSSR, Minsk. Instytut torfa. Trudy, 1953. t. 2, p. 131–45, tables.) 9 refs. Text in Russian. Other authors: A. P. KotkovskiI, N. TS. Karasik, O. I. Mazina, and L. B. El'kind. Title tr.: Peat tar from the Stalin glass works and the fields of its utilization.

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The process of distillation of peat tar, obtained as residue from a gas generating unit, is described and the results of chemical and physical analyses are tabulated. Three types of by-products, useful in the chemical industry, are distilled (phenolic, creolinic and paraffinic fractions).

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RAKOVSKIĬ, V. E., see Zhuravleva, M. M., and V. E. Rakovskiĭ. Izmenenie drevesiny . . . 1953. No. 49055.

47508. RAL'F, ÎU. Koster v talge. (Ogonëk, Sept. 1956. god 34. no. 36, p. 24, illus.) Text in Russian. *Title tr.:* Camp-fire in the talga.

Biographical sketch of Nikolai Eliseevich Shundik, a former teacher in Chukotka who became a noted Soviet writer; his novels and plays depict life in the North. **Copy seen:** DLC.

47509. RALLI, ELAINE PANDIA, 1894—, and others. Effects of vitamin supplementation of the diet on reaction to short-term cold stress in normal young male adults. (Metabolism, clinical and experimental, Mar. 1956. v. 5, no. 2, p. 170–96, illus, tables.) 24 refs. Other authors: W. J. Kuhl, Jr., H. Gershberg, E. M. Beck, E. R. Street, and B. Laken.

Account of study on the effects of eight minutes' immersion in water of 9.3 C. before and following supplementation with either calcium pantothenate, vitamin B<sub>12</sub> or the whole vitamin B complex plus ascorbic acid. Temperature and heart rate were observed; blood pressure, chemical and cellular components were investigated, also urine composition.

\*\*Copy seen: DNLM.\*\*

RALLI, ELAINE PANDIA, 1894—, see also USQM Food & Container Institute. Nutrition symposium. 1954. No. 48643.

47510. RAMBERG, HANS, 1917—. Mécanisme de formation des pegmatites dans l'ouest du Groënland. (Sciences de la terre, 1955. Numero hors série, p. 25—36, 7 illus. on 2 plates.) 6 refs. Text in

French. Title tr.: Mechanism of formation of pegmatites in West Greenland.

Contains description of pegmatites in gneisses and schists between 64° and 69° N. along the west coast of Greenland. Pegmatites resulting from volume-by-volume replacement of other rocks and from growth in dilating fissures are discussed; also evolution of ptygmatic folding and "pinch-and-swell" structures. Evidence indicates that both types of pegmatites are formed by diffusion through the host rock, that the host rock is the source of the pegmatite material. Discussion follows the text (p. 34–36).

Copy seen: DGS.

47511. RAMBERG, HANS, 1917—. Natural and experimental boudinage and pinch-and-swell structures. (Journal of geology, Nov. 1955. v. 63, no. 6, p. 512—26, 29 illus. on 6 plates, 3 diagrs.) 10 refs. Also pub. as: Greenland, Geologiske Undersøgelse, Miscellaneous papers, no. 16.

Deals primarily with the mechanics of formation and experimental studies of the structures. Mention is made of boudinage structures observed in West Greenland (no location given), with nine photographs.

Copy seen: DGS.

47512. RAMBERG, HANS, 1917—. Pegmatites in West Greenland. (Geological Society of America. Bulletin, Feb. 1956. v. 67, no. 2, p. 185–213, 45 illus. on 11 plates, text map, diagrs., cross-sections.) 14 refs.

Numerous quartz-feldspar pegmatites occur in the gneisses and crystalline schists of West Greenland, between Ivigtut and Jacobshavn Isfjord (61°-69° N.). Some are volume-by-volume replacement bodies, others formed by slow growth in dilating fissures. The nondilation and dilation pegmatites were emplaced by similar mechanism, viz.: diffusion through the host rocks and through fissures. Field evidence is against bodily flow of pegmatite magma and crystallization from a stagnant magma. Tension joints and shear zones have commonly localized pegmatites, but other structural heterogeneities such as pre-pegmatitic dikes and inclusions in gneisses were also "sinks" for the diffusion currents of pegmatite-forming matter. Ptygmatic folding and pinch-and-swell structures are results of tectonic deformation simultaneous with, or later than, the formation of pegmatite.-From author's abstract. Copy seen: DGS. 47513. RAMOS, J. GARCIA. Ventricular fibrillation in artificial hypothermia. (Journal of thoracic surgery, May 1956. v. 31, no. 5, p. 635-42, illus.) 12 refs.

Account of study on rats which showed "that lowering the temperature of the animal increases the heterogenicity of the ventricular muscle making it more apt to present ventricular fibrillation." This change is attributed to lowered oxydative reactions and reduced irrigation of the heart. Copy seen: DNLM.

RAMSFJELL, E., see Gaarder, K. R., and others. Further . . . Calciopappus caudatus. 1954. No. 45010.

**47514. RANDIĆ, LEO.** A device to determine position rapidly without calculation. (Institute of Navigation, London. Journal, Jan. 1956. v. 9, no. 1, p. 11–16,

diagrs.) 2 refs. Contains description and diagrams of a small telescope to which a bubble is attached. The device turns the invisible zenithal point into a visible spot in order to render possible determination of the observer's longitude and latitude by a determination of the right ascension and declination of the observer's zenith. Four or five film strips containing about 100 star charts each suffice for the whole sky with an accuracy of one minute of arc. Stars and constellations need not be known since only the coincidence of star images is of interest. The device is suitable for polar regions, during the polar night, where the accuracy of the usual sextant is low due to the small changes in star altitude. The accuracy of position determination by means of the device is equal to that of bubble position on the celestial sphere, and it is the same in higher latitudes as in the equatorial regions. Copy seen: DLC.

47515. RANSOM, BRAYTON HOW-ARD, 1879–1925. Hookworms of the genus *Uncinaria* of the dog, fox, and badger. (U. S. National Museum. Proceedings, July 8, 1924. v. 65, art. 20, no. 2533, p. 1–5, plate.) 6 refs.

Includes a description of U. stenocephala, common in fur foxes in northern North America; it has also been found in the dog in Alaska.

Copy seen: DLC.

**47516.** RANSOME, ALFRED L. The mineral production of Alaska. (*In:* Alaskan Science Conference . . . 1952. Proceedings, *pub.* 1954, p. 76–77.)

Total value of all mineral commodities

produced in Alaska during 1880–1951 exceeded one billion dollars, value of gold representing two-thirds, copper one-quarter, coal four percent, silver one percent, and other minerals five percent. Gold and copper discovery, mining, and prices are briefly discussed, with notes on other minerals.

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47517. RANSOME, ALFRED L., and W. H. KERNS. Names and definitions of regions, districts, and subdistricts in Alaska, used by the Bureau of Mines in statistical and economic studies covering the mineral industry of the Territory. Washington, D. C., May 1954. 91 p. 16 text maps. (U. S. Bureau of Mines. Information circular 7679.) approx. 700 refs.

A presentation for the mineral industry and individuals interested in the mineral or allied industries in Alaska. Need for standardization of names and the development of the system are discussed. Fourteen regions (subdivided by districts and subdistricts) are listed alphabetically. Area and boundaries of each region and its subdivisions are defined and shown on accompanying index maps, with references to selected publications on the area concerned. Map references are limited to the U.S. Geological Survey's miscellaneous Alaska Special maps and recent Alaska Reconnaissance Topographic Series, scale 1:250,000. Appended alphabetical indexes to regions and their subdivisions cover both text and index maps. Copy seen: DGS.

**47518.** RANSOME, ALFRED L., and W. H. KERNS. The problem of standardizing names and definitions of geographic regions and mining districts in Alaska. (*In:* Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 170–72.)

A scheme for designating geographic locations (as distinct from features) is required, together with definition of terms "area," "region," "mining district," and "precinct," as part of the designation. A plan for standardizing names and definitions is in preparation by the Mineral Industry Division of the Bureau of Mines, Region I; generally accepted names being retained if possible. Its preliminary report describes 14 regions, named for large geographic features; 71 districts, named for mining areas; and 101 subdistricts, named for drainage basins. Copy seen: DGS.

47519. RAPALSKI, ADAM J. Cold injury. (Medical bulletin of the U. S. Army, Europe, Jan. 1956. v. 13, no. 1, p. 14.)

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Contains account of 1954–1955 cases of frostbite in the area of the command requiring hospitalization; number of mandays lost; comparison with the previous winter; value of indoctrination in prophylaxis, etc.

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47520. RASHIN, A. G. Gramotnost' i narodnoe obrazovanie v Rossii v xix i nachale xx v. (Akademiâ nauk SSSR. Istoricheskie zapiski, 1951. t. 37, p. 28–80, tables.) Refs. Text in Russian. Title tr.: Literacy and popular education in Russia in the 19th and early 20th century.

Arkhangel'skaya Oblast' is included in tabular data on literacy of draftees, general literacy, population, number of students per 100 inhabitants, schools and students, etc. (p. 46, 48, 52, 56).

Copy seen: DLC.

RASMUSSEN, BIRGER, 1907–, see International Commission for NW. Atlantic Fisheries. Annual proceedings . . . 1955–56. 1956. No. 45703.

47521. RASMUSSEN, KNUD JOHAN VICTOR, 1879–1933. Five Eskimo poems. Translated by Erik Haugaard from the Danish versions by Knud Rasmussen. (American-Scandinavian review, June 1956. v. 44, no. 2, p. 163–67.)

English translation of poems collected by Rasmussen on the Fifth Thule Expedition, 1921–1924, to the Canadian Arctic. *Copy seen*: DLC.

47522. RASMUSSEN, KNUD JOHAN VICTOR, 1879–1933. Schneehüttenlieder; Eskimoische Gesänge. Übertragen und herausgegeben von Aenne Schmücker. Essen, Chamier, 1947. 190 p. illus. Text in German. *Title tr.:* Snow hut songs; Eskimo songs. Translated and edited by Aenne Schmücker.

German translation of No. 14232, with appended remarks by the translator and four additional songs (with music) from collections of F. Boas and Ch. Leden.

Copy seen: CaMAI.

RASMUSSEN, KNUD JOHAN VICTOR, 1879–1933, see also Sanders, I. T. Societies around the world. 1956. No. 47782.

47523. RASMUSSEN, VIGGO J. Tomorrow was yesterday. (In: Opening to-

morrow's airways, special number of the Danish Foreign Office journal, 1956. p. 25– 27, 5 illus.)

Contains a brief account of the development and future plans of the Scandinavian Airlines System, a consortium of the Danish Air Lines company with national airlines of Norway and Sweden; non-subsidized though 50 percent owned by the three governments. SAS has lead in opening Great Circle routes across the Arctic. It inaugurated an experimental flight from Los Angeles to Copenhagen via Greenland in Nov. 1952. Regular service, started two years later, has proved successful; a daily trip in each direction was planned for the summer of 1956. New airliners on order are expected to open a new polar route from Scandinavia to Tokyo with only one stop (in Alaska) and travel time of 30 hr.

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47524. RASMUSSON, GUNNAR. Primära karrenformer i Lofoten. (Svensk geografisk årsbok 1956. årg. 32, p. 191-93, illus.) Text in Swedish. *Title tr.:* Primary rain erosion forms in Lofoten.

Kvitfjell, a 498 m. mountain near Evenskjaer (68°32′ N. 16°33′ E.) has mean temperature of 3.5° C. and annual precipitation of about 1200 mm. Heavy erosion has taken place in crystalline limestone. The resulting morphological forms, varying according to rock shape, vegetation, etc., are described and illus. given. Copy seen: DLC.

RASSADINA, KSENIA ALEKSAN-DROVNA, 1903—, see Savich, V. P., and others. O... antibiotike iz lishainikov ... 1956. No. 47808.

47525. RASTITEL'NOST' KRAÏNEGO SEVERA. Ukazatel' latinskikh nazvanit rastenii. (Rastitel'nost' Kraïnego Severa SSSR i ee osvoenie, 1956. vyp. 2, p. 498–509.) Text in Russian and Latin. Title tr.: Index of Latin names of plants.

Comprehensive index covering some 800 plants treated in the four papers (by B. N. Gorodkov, V. B. Kuvaev, V. D. Aleksandrova and N. G. Solonevich, q. q. v.) which comprise the volume; arranged by taxa: algae, fungi, lichens, liverworts, mosses and vascular plants.

\*\*Copy seen: DLC.\*\*

47526. RASTITEL'NOST' KRAÏNEGO SEVERA SSSR i ee osvoenie, vyp. 1-2. pod red. B. A. Tikhomirova. Moskva-Leningrad, Izd-vo Akademii nauk SSSR,

1956. in progress. 2 no.: 100, 511 p. illus. Text in Russian. Title tr.: Vegetation of the far North of the U.S.S.R. and its utilization, no. 1-2. B. A. Ti-

khomirov, editor.

Papers pub. under auspices of the Botanical Institute of the Academy of Sciences U. S. S. R. The first number, with subtitle: Okhrana lesov na ikh severnom predele i zashchitnoe lesorazvedenie v tundre (Preservation of the forests at their northern limits and the problem of afforestation of the tundra) contains editor's preface stating purpose and scope of the publication and scientific institutions involved in the work. The latter include Institut sel'skogo khozfalstva Krainego Severa (Institute of Agriculture of the far North), formerly Institut políarnogo zemledeliía . . . Then follow eight papers on forestation problems by B. A. Tikhomirov, N. I. P'favchenko, V. N. Andreev, B. N. Norin, G. I. Karev, L. N. Gorûnova, Z. P. Savkina and T. P. Meshkova, and F. I. Atchenko, q. q. v. The second number contains four vegetation studies by B. N. Gorodkov, V. B. Kuvaev, V. D. Aleksandrova, and N. G. Solonevich (q. q. v.) with a common Copy seen: DLC index (supra).

RATCLIFFE, JOHN WALDO, 1919see Da Costa, I. A., and others. Liver circulation in general hypothermia, 2; effect of occlusion . . . 1956. No. 44522.

RATCLIFFE, JOHN WALDO, 1919see also Gerbode, F. L. A., and others. Liver circulation . . . hypothermia 1 . . . oxygen saturation and electrolytes . . . 1966. No. 45077.

47527. RATHBUN, MARY JANE, 1860-1943. The fossil stalk-eyed Crustacea of the Pacific slope of North America. Washington, D. C., U. S. Govt. Print. Off., 1926. vii, 155 p., 6 illus., 39 plates. (U. S. National Museum, Bulletin 138.)

Contains a check list, species arranged according to age, new species, new names, etc., localities in geographical order with the species at each, and a systematic annotated list of 105 species, 54 of them described as new. Branchioplax washingtoniana n. sp. (Bering Lake, Alaska, Oligocene), Lophopanopeus olearis, n. sp. (Pearl Creek, Alaska, Oligocene) and Portunites alaskensis, n. sp. (Redwood Creek and Nichowak District, Alaska, Oligocene) are included.

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47528. RATHJENS, GEORGE WIL-Construction tech-LIAM, 1925niques, developed in mining, power plant construction and electrical distribution in Alaska. [Washington, D. C.] 1956. 2 p. l., 17 p. illus., diagrs. (In: U.S. Office of Naval Operations. The dynamic North, v. 2, no. 9.) 4 refs.

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Discusses some problems arising from the presence of permafrost and ice as they affect placer mining, hydroelectric power development, and transmission lines in arctic and sub-arctic areas. Methods of protecting piling against frost heaving and against heat transfer through foundations are described. Water supply factors to be considered in hydroelectric developments in these areas also discussed. Copy seen: DLC.

RATSIMAMANGA, ALBERT RAKOTO, see Rahandraha, T., and A. R. Ratsimamanga. Effets comparatifs de précurseurs de corticostéroïdes . . . 1956. No. 47503.

RATTRAY, JEANNETTE (EDWARDS), 1893- , see Edwards, E. J., and J. E. Rattray. Whale off. 1956. No. 44729.

RATYNSKII, V. M., see Vinogradov, A. P., and others. Izmenenie khimicheskogo sostava . . . 1952. No. 48757.

RAUSCH, R. V., see Rausch, R. L., and others. Studies . . . helminth fauna of Alaska, 27 . . . larvae of Trichinella spiralis . . . 1956. No. 47529.

47529. RAUSCH, ROBERT LLOYD, 1921-, and others. Studies on the helminth fauna of Alaska, 27; the occurrence of larvae of Trichinella spiralis in Alaskan mammals. (Journal of parasitology, June 1956. v. 42, no. 3, p. 259-71, table.) 28 refs. Other authors: B. B. Babero, R. V. Rausch and E. L. Schiller.

Report of a field survey carried out during 1949-1953. The material does not include ungulates; it originates from all the Territory but mostly from above the Arctic Circle. 2433 animals, representing 42 species were examined and larvae were

identified in 23 species.

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47530. RAUSCH, ROBERT LLOYD, . Studies on the helminth fauna of Alaska, 28; the description and occurrence of Diphyllobothrium dalliae n. sp. Cestoda. (American Microscopical Society. Transactions, Apr. 1956. v. 75, no. 2, p. 180-87, illus.) 11 refs.

Adult and larval stages of this tape-

worm are described from fresh-water and anadromous fishes. The blackfish (Dallia pectoralis, Bean), a common commercial species, was most frequently infected. Attempts to find the natural final host were not successful. Gulls and dogs are suspected.

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47531. RAUSCH, ROBERT LLOYD, 1921—. Studies on the helminth fauna of Alaska, 30; the occurrence of Echinococcus multilocularis Leuckart, 1863, on the mainland of Alaska. (American journal of tropical medicine and hygiene, Nov. 1956. v. 5, no. 6, p. 1086–92, illus., table, map.). 13 refs.

This species (syn. E. sibiricensis Rausch and Schiller, 1954) whose larva causes alveolar hydatid disease in man, is reported for the first time from continental North America. Adult cestodes were collected by author from foxes at four localities in arctic Alaska and on Nunivak Island. Author believes that species is widely distributed in Alaska.

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47532. RAUSCH, ROBERT LLOYD, 1921— . A summary of current information on some animal-borne diseases in Alaska. (*In*: Alaskan Science Conference . . . 1952. Proceedings, *pub*. 1954, p. 144–47.)

A review of research activities commenced in 1948 by the Animal-borne Disease Branch of the Arctic Health Research Center at Anchorage, primarily in helminthic diseases. The following are discussed: echinococcosis, trichinosis, diphyllobotriasis, rabies, tularemia, dog distemper and some others. The review is largely confined to the animal carriers.

\*Copy seen: DGS.\*

RAUSCH, ROBERT LLOYD, 1921-, see also Schiller, E. L., and R. L. Rausch. Mammals of the Katmai . . . 1956. No. 47827.

47533. RAUSCHERT, HERMANN. Das "singende" Eis. (Orion, Nov. 1954. Jahrg. 9, Heft 21/22, p. 880-83, illus.) Text in German. *Title tr.:* Singing ice.

Sounds emitted by floating masses of calved glacier ice in Spitsbergen are discussed and ascribed to the explosive release of air bubbles in the ice during melting. Variations in the quality of the sound are described and related to changes in atmospheric temperature and pressure. The sounds decrease inversely with the pressure and directly with tem-

perature, ceasing entirely at an atmospheric temperature of about  $0^{\circ}$  C.

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47534. RAWSON, DONALD S., 1905. The net plankton of Great Slave
Lake. (Canada. Fisheries Research
Board. Journal, Jan. 1956. v. 13, no.
1, p. 53-127, illus., tables, maps.) 42
refs.

An extensive study based on field work conducted during 1944-47, and on sampling continued at a central station through 1954. Taxonomic, gravimetric and numerical evaluations of nearly 500 samples are presented, with comparisons between the larger, open lake and the deep, cold, east arm. Seasonal and vertical distribution of the plankton were worked out and the dominant forms among the algae, rotifers, Cladocera and copepods studied as to their frequency in the Lake. Species composition of the phyto- and zooplankton is determined and a closer identity of the dominant forms with those of Lake Winnipeg, Nipigon and the Great Lakes established. Copy seen: DI.

RAWSON, K. S., see Griffin, D. R., and others. The comparative physiology . . . thermal insulation. 1966. No. 45293.

47535. RAY, CARLETON. The Alaskan snow flea. (Natural history, Mar. 1956. v. 65, no. 3, p. 128-29, illus.)

"Snow fleas or Collembola found in the middle of Lemon Creek Glacier are described, and their survival in snow is discussed. As many as 120 insects were counted per sq. ft. of snow in sunny weather with temperatures of 45° F. or higher; they disappeared into the snow during wind, precipitation, and at dark, retreating into tunnels and caverns under surface. Snow fleas remain active even at the f. p. and live on pollen and snow algae. Various hypotheses on the wintering of these insects are suggested."—SIPRE. Copy seen: DLC.

47536. RAY, LOUIS LAMY, 1909—. Perennially frozen ground an environmental factor in Alaska. (In: International Geographical Union. Eighth General Assembly and Seventeenth International Congress, Washington, D. C., Aug. 8–15, 1952. Proceedings, pub. 1956? p. 260–64.) 9 refs.

With growth of permanent settlements, extension of agriculture and construction, an understanding and utilization of

permafrost becomes imperative, as it underlies about 60 percent of the area mainly in the interior and north. The permafrost zone and the active layer are Zones of continuous, disdescribed. continuous, and sporadic permafrost are explained, and the relationship indicated between permafrost and local relief, soils, vegetation. Land clearing and construction on underlying permafrost disturb the equilibrium of the environment, but the deleterious effects may be controlled. Copy seen: DGS.

RAYMOND, MARCEL. 47537. Précisions sur la distribution de l'Oryzopsis canadensis (Poir.) Torr. (Association canadienne-française pour l'avancement des sciences, Montreal. Annales de l'ACFAS, 1953. v. 19, p. 88-90, text map.) 4 refs. Text in French. Also pub. as: Montreal. Botanical Garden. Memoir, no. 36. Title tr.: Notes on the distribution of Oryzopsis canadensis (Poir.) Torr.

This grass with distribution (cf. map) in Quebec, the Maritime Provinces, and northern New England, is found along the eastern shores of James Bay and in northwestern Quebec.

Copy seen: CaMAI.

47538. RAYMOND, MARCEL. Précisions sur la distribution du Carex crawei Dewey. (Association canadiennefrançaise pour l'avancement des sciences, Montreal. Annales de l'ACFAS, 1953. v. 19, p. 90-92, text map.) Ref. Text in Also pub. as: Montreal. Botanical Garden. Memoir, no. 37. Title tr.: Notes on the distribution of Carex crawei Dewey.

North American distribution of this sedge and its occurrence along the Harricanaw and Attawapiskat Rivers in northern Quebec and Ontario are noted. Copy seen: CaMAI.

RAYTON, W. M., see Little, C. G., and others. Review of ionospheric effects . . . 1956. No. 46400.

REAL, JACK D., see Thomas, H. D., and The effects . . . hypothermia ballistocardiogram . . . dog. 1956. No. 48369.

REAT, RUTH, see Jesson, E. R. From Dawson to Nome . . . 1956. No. 45794.

47539. RECHNOÏ TRANSPORT. Pervye russkie torgovye korabli v Amerike, 1805-1955 g. (Rechnol transport, Oct.

1955. god 14, no. 10, p. 30-31.) Text in Russian. Title tr.: The first Russian cargo vessels in America.

Reviews early Russian expeditions to the Alaskan coast (1732-1867), and the initiation of trade with the United States via Atlantic in 1805, by the merchant Anfilatov, with his two ships.

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47540. REDFIELD, ROBERT, 1897-Robert Niel Pehrson, 1926–1955. (American anthropologist, Apr. 1956. v. 58, no. 2, p. 357-59.)

Obituary: sketch of his life and work mainly among the Lapps; his works, published and unpublished, are listed.

Copy seen: DLC.

47541. REDFIELD, W. C. Ice in the North Atlantic. (In: Blunt, G. W. Memoir of the dangers and ice in the North Atlantic Ocean, Washington, 1868.

p. 12-19, fold. map.)

The dangers of ice to navigation and the trend of polar-ice drifting are discussed on the basis of observations dating back to 1832. Ship reports on ice conditions are reproduced, including location of the ice, its extent, types, iceberg characteristics, and difficulties encountered. The effects of polar currents and the Gulf Stream on the drift and distribution of ice are examined in detail. Ice conditions in the North Atlantic from 1737-1859 are mapped.

Copy seen: DLC.

RED'KIN., M., see Riumkin, A., and M. Red'kin. Za poliarnym kolom. 1956. No. 47605.

47542. REDMYER, HEDLEY E. Reindeer in Alaska. Translated and edited by Sverre Arestad. (Pacific Northwest quarterly, July 1951. v. 42, no. 3, p. 211-23, text map.) 5 refs. Condensed translation from Skandinaven July 31, 1899 (Norwegian-American newspaper formerly pub. in Chicago), with

introd. by the Editor.

Redmyer, with a crew of six (including five Lapps from Norway), drove the introduced reindeer from Haines in Southeast Alaska, north through Yukon to Circle (65°50' N. 144°04' W.). The animals were part of a herd of more than 500 purchased by the U.S. War Dept. in Norway and shipped to Seattle, thence in Mar. 1898 to Haines where by Apr. 15, 362 had died from hunger. Redmyer started his drive May 6, 1898 with 185 deer, and arrived in Circle Feb. 28, 1899 with 114. Difficulties and dangers of the trip are described.

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REDOZUBOV, D. V., see Tomirdiaro, S. V. Opredelenie . . . protaivania . . . 1956. No. 48440.

47543. REED, EDWARD B. Notes on some birds and mammals of the Colville River, Alaska. (Canadian field-naturalist, July-Sept. 1956. v. 70, no. 3, p. 130-36, text map, table.)

Contains field notes on 48 species of birds and eleven mammals (grizzly bear, wolverine, red fox, arctic fox, gray wolf, harbor seal, Alaska moose, etc.) observed along 450 miles of the Colville River during the summer 1955. A description of the region and a table of distributional data on birds recorded during the trip, are added.

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47544. REED, JOHN CALVIN, 1930—, and J. C. HARMS. Rates of tree growth and forest succession in the Anchorage-Matanuska valley area, Alaska. (Arctic, 1956. v. 9, no. 4, p. 239–48, 4 illus., text map, diagrs., graphs.) 4 refs.

Results of vegetation study by U. S. Army Map Service in summer 1955 in the area 61°07'-45' N. approx. 149°-150° W., from sea level to tree line at 1,500-2,000 Eight principal forest cover types were distinguished. Sixty-five test plots were laid out, in which trees were counted, diameters and heights measured, and ages determined. Most important factors controlling distribution of species are altitude, drainage, fires, regenerative ability of species after fires, frequency of flooding; soil type and surficial geology are relatively unimportant. Growth rate depends on amount of sunlight and drainage; cottonwood and aspen have highest rates, birch and white spruce lower, black spruce lowest. Mixed birch-white spruce forest is generally self-perpetuating. Copy seen: DLC.

47545. REED, JOHN CALVIN, 1905—. The use of airplane photographs in the geologic study of the Chichagof mining district, Alaska. (Photogrammetric engineering, Jan.—Mar. 1940. v. 6, p. 35–44,

illus.)

Contains information on how the photographs were used and what geologic information was obtained that would have been otherwise more difficult or impossible to get. Multiple lens photographs taken

in 1926 and 1929 were used during the 1939 field season in this area of Southeast Alaska. Their principal use was in study of the structural features. Many of the faults with slight surface expression would have been unidentifiable without the aerial photographs. *Copy seen:* DLC.

REES, D. B., see ICAO. Ice . . . runways. 1955. No. 45701.

47546. REES, WILLIAM J. A revision of some northern gymnoblastic hydroids in the Zoological Museum, Oslo. (Nytt magasin for zoologi, 1956. v. 4, p. 109–120, 2 illus., 3 tables.) 27 refs. Pub. also as: Contrib. no. 64. Zoological Museum, University of Oslo.

Contains a revision of North-European and arctic hydroids, chiefly collected by the Norske Nordhavs Expedition of 1876-78 and described by K. Bonnevie (No. 1966 and 20822), based on reexamination of the type material (17 species) from Greenland Sea, Barents Sea and Svalbard waters. Some species (Coryne brevicornis, Hydractinia ornata and H. humilis), are reduced to synonyms. Monocoryne gigantea proves to be a Myriothelid hydroid worthy of a subfamily of its own (Monocoryninae subfam. nov.).

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47547. REESE, HAROLD E. Spark plugs and cold weather. (Aircraft accident and maintenance review, Sept. 1954. v. 9. no. 9. p. 18.)

Describes proper starting technique for cold weather operation of aircraft engines to prevent ice bridging. If the engine has been properly diluted, sufficient cranking speed can be attained during start, and the magneto voltage output will assure proper spark plug firing.

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REHM, WARREN STACY, 1907—, see Brodsky, W. A., and others. The freezing point depression of mammalian tissues . . . 1956. No. 44144.

47548. REHN, JAMES ABRAM GAR-FIELD, 1881— . Some records of Alaskan Aeridoidea; Orthoptera. (Entomological news, Feb. 1952. v. 63, no. 2, p. 29–33.)

Contains notes on five species of grass-hoppers collected in 1950 in Alaska (Palmer, Fairbanks, Circle, Big Delta) by Dr. H. J. Lutz and Dr. R. H. Washburn. Neopodismopsis abdominalis, obtained at Fairbanks, is reported for the first time from Alaska.

Copy seen: DA.

REID, L. CORSAN, see Postel, A. H., and others. Effect of hypothermia . . . shock. 1956. No. 47431.

47549. REIERSEN, JOHANNES. Malaxis paludosa funnet på Hinnøy. (Blyttia, 1945. bd. 3, hefte 3-4, p. 114.) Text in Norwegian. Title tr.: Malaxis paludosa found in Hinnøy.

Records find in Aug. 1945, of M. paludosa, in Kongsvik parish in Hinnøy, near the border of Nordland and Troms fylke. It is the northernmest record of this terrestrial orchid in Norway.

Copy seen: DA.

47550. REIERSEN, JOHANNES. Nyere plantefunn fra Lofoten-Vesterålen-Hinnøy. (Blyttia, 1949. bd. 7, nr. 2, p. 44-46.) 4 refs. Text in Norwegian. Summary in English. *Title tr.:* Recent plant finds from Lofoten-Vesterålen-Hinnøy.

Seventeen new plants are listed, with location, nature of bedrock or soil, and elevation; on this basis some that may have persisted throughout the last glacial period are grouped as mountain flora.

Copy seen: DLC.

REĬNEKE, MIKHAIL FRANTSEVICH, see Pakhtusov, P. K. Ékspeditsiiâ . . . v II 1832 i 1833 . . . 1842. No. 47230.

REĬNEKE, MIKHAIL FRANTSEVICHsee also Pakhtusov, P. K. Vtorafa èkspedifaifa . . . v 1834 i 1835 . . . 1844. No. 47231.

REĬNEKE, MIKHAIL FRANTSEVICH, see also TSivol'ka, A. K., and S. A. Moiseev. Plavanie . . . k Novol Zemlíe v 1838 i 1839 . . . 1845. No. 48485.

47551. REINHARD, EDWARD GEORGE, 1899— Rhizocephalan parasites of hermit crabs from the Northwest Pacific. (Washington Academy of Sciences. Journal, Feb. 15, 1944. v. 34, no. 2, p. 49–58, 7 illus.) 13 refs.

Contains discussion of five genera and eight species of these crustacean parasites, of which one genus and four species are new. Pellogaster depressus n. sp. (Kodiak Island), Peltogasterella subterminatis n. sp. (Afognak Bay, Alaska and Alaska Peninsula), and three other species, native to Bering Sea and Gulf of Alaska, are included.

Copy seen: DLC.

47552. REINHARD, KARL R. A distemper-like disease in Alaskan sled dogs. (In: Alaskan Science Confer-

ence . . ., 1952. Proceedings, pub. 1954, p. 151-53.)

Information is presented on the meaning of the term "distemper" and the character of the 1951–52 epizootic in northern Alaska, on the basis of the outbreaks at Barrow and Anaktuvuk Pass; losses; project of prevention; pathology; experiments and research in therapy; recommendations: quarantine, immunizations, vaccination, etc. The virulence of the Alaskan infection is stressed, also the impairment of transportation by loss of dogs.

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47553. REISSMANN, KURT R., and S. KAPOOR. Dynamics of hypothermic heart muscle; heart-lung preparation. (American journal of physiology, Jan. 1956. v. 184, no. 1, p. 162-70.) 19 refs.

Account of experiments with dog preparations concerning the work capacity of the hypothermic heart; onset of ventricular fibrillation and its relation to work performance of the heart; ventricular contraction at various temperatures; effects of epinephrine upon the hypothermic heart.

Copy seen: DLC.

47554. REISSMANN, KURT R., and R. L. VAN CITTERS. Oxygen consumption and mechanical efficiency of the hypothermic heart. (Journal of applied physiology, Nov. 1956. v. 9, no. 3, p. 427-30, illus. tables.) 11 refs.

Account of investigations on canine heart-lung preparations. The hypothermic heart used less oxygen per unit of time, and slightly less for equal work per beat, than the normothermic. This lower O<sub>2</sub>-consumption is attributed to the slower rate and depressed resting metabolism of the hypothermic organ.

Copy seen: DNLM.

47555. REKSTYN', V. Kalendar' i kharakteristika vozdushnykh mass v zimnil period nad Vladivostokom. (In: Khromov, S. P.: Sinopticheskie profsessy Dal'nego Vostoka, 1940. p. 64–103, tables, maps, graphs.) 11 refs. Text in Russian. Title tr: The calendar and characteristics of air masses during winter above Vladivostok.

Movements of air masses are analyzed with respect to their origin, character and direction of movement. Distribution of the seasonal movements of air is illustrated on 14 charts for the winter periods of 1932–1936. The recurrence

of the characteristics of continental polar air during the Dec.-Feb. period is statistically represented on ten graphs. Copy seen: DLC.

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REMBIESA, ROMAN, see Bobr, J., and R. Rembiesa. O zmiennocieplności po chlorpromazynie. 1956. No. 44061.

REMBIESA, ROMAN, see also Szafran, L., and others. Wpływ przewiekłej narkozy luminalowej . . . 1956. No. 48326.

47556. REMICK, J. H. Stratigraphy and petrography of the iron formation at Ross Mountain, Quebec. (Geological Society of America. Bulletin, Dec. 1956.

v. 67, no. 12, pt. 2, p. 1727).

Abstract of paper submitted for Society meeting in Minneapolis, Oct. 31-Nov. 2, Ross Mt. (57°25' N. 70° W.) lies in the northern part of the Upper Precambrian Quebec-Labrador geosyncline. Stratigraphic section from the base up includes 50 ft. of shaly magnetite chert, 100 ft. of interbedded lenticular chert and cherty siderite, and 125 ft. of bedded to massive cherty quartzite. Mineral constituents are noted. Minerals were formed by primary chemical precipitation or during early authigenesis.

Copy seen: DGS.

47557. REMPEL, R. C., and R. GANG. Crevasse detection studies; final report, 21 May 1955-21 February 1956. Palo Alto, Calif., Varian Associates, Feb. 1956. 39 l., illus., diagr., graphs. (Engineering report no. 165-4). Prepared for U. S. Army. Engineer Research and Development Laboratories, Ft. Belvoir, Va., on Contract no. DA-44-099 eng-2570, Project no. 8-98-09-002A.

The results of studies on the Greenland Icecap on the transmission characteristics of microwaves in snow and ice as a function of frequency, the most favorable operating frequency for a microwave crevasse locator, and the performance of single- and crossed-beam microwave detection systems are reported. A rapid increase of attenuation with increasing frequency and moisture content was Attenuation measurements innoted. dicated that the FM system was superior to the crossed-beam system, one advantage of the FM detector being that no contact with the snow surface is needed. For successful operation of the crevasse detector, the attenuation must be less than 0.5 db./ft., the center frequency less than 3 kmc., and the band with 300 me. A block diagram of an FM crevasse detector is given, and its various components and spectrum analyzers are discussed.—From SIPRE.

Copy seen: DES.

47558. RENAUD, HUGH. Ice landing preparation. (Pulp and paper magazine of Canada, Jan. 1956. v. 57, no. 1, p. 120, Reprinted from Northwestern Ontario Timber Operators Association,

Log-book, Sept.-Oct. 1955.

Preparation and maintenance of a wood dump on ice are outlined. Approximately one acre should be allowed for 450 cords of wood and the boundaries clearly marked with brush. The ice cover can be strengthened by slushing. After the ice thickness reaches 5 in., a snowmobile and drag are used over the snow to effect more rapid freezing. With 10 in. of ice, the snow is rolled rather than dragged. Vehicles carrying up to 61/2 cords can safely cross 22 in. of predominantly blue The wood should be unloaded first on the outer edges of the dump.

Copy seen: DLC.

RENDAL, JOERGEN, see Marcussen, P. V., and J. Rendal. Eradication of gonorrhea . . . Greenland. 46616.

47559. RENKIN, E. M. Potassium exchange in perfused mammalian skeletal muscle. (In: National Research Coun-Division of Medical Sciences. physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 32-36, illus. tables.) 13 refs.

Report on observations upon the isolated, perfused hind leg of the cat at low (3° to 9° C.) and normal temperatures. At low temperatures, net loss of K+ was This different bemarkedly reduced. havior of perfused from immersed muscle at low temperatures is pointed out.

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RENKONEN, OLAVI. Ergän-47560. zendes und Berichtigendes über Stenus confusoides Renk. und St. Linnaniemii nom. nov. (=St. distans Renk.; Col. Staphylinidae). (Suomen hyönteistieteellinen aikakauskirja, 1936. v. 2, no. 4, p. 178-79.) Text in German. Title tr.: Supplementary and corrective data on Stenus confusoides Renk. and S. linnaniemii nom. nov. (= S. distans Renk.; Col., Staphylinidae).

New distributional data are offered on the first of these beetle species (incl. Muonio, Kemi Lappmark); S. distans is discarded as a preoccupied name and a new name S. linnaniemii is proposed.

Copy seen: DLC.

47561. RENKONEN, OLAVI. Über die finnischen Arten der Gattung Acrotrichis Motsch.; Col., Ptillidae. (Suomen hyönteistieteellinen aikakauskirja, 1939. v. 5, no. 3, p. 177-207, 33 illus., text map.) 19 refs. Text in German. Title tr.: On Finnish species of the genus Acrotrichis Motsch.; Col., Ptillidae.

Contains a critical revision of 17 species with a discussion of the genus and Finnish group, a table for determination of the species, descriptions, critical remarks and localities. A. fennica, native to Finnish Lapland, is described as new, and at least eight other of these beetles are recorded in Finnish Lapland and the Kuusamo region. Copy seen: DLC.

47562. RENKONEN, OLAVI. Zerstreute Bemerkungen über finnische Staphyliniden, Col. (Suomen hyönteistieteellinen aikakauskirja, 1939. v. 5, no. 1, p. 62–65, 3 illus.) Text in German. *Title tr.:* Scattered notes on Finnish Staphylinidae, Col.

Contains a description of Aploderus caelatus f. Yeminalis n. f. obtained at Ivalo in Inari Lappmark, and miscellaneous notes on two other rove beetles: Stenus juno from the same locality and Quedius fellmanni collected at Muonio, Kemi Lappmark. Copy seen: DLC.

47563. RENKONEN, OLAVI. Zur Morphologie von Atheta islandica Kraatz; Col., Staphylinidae. (Suomen hyönteistieteellinen aikakauskirja, 1936. v. 2, no. 3, p. 115–20, 3 illus.) 7 refs. Text in German. Title tr.: A contribution to the morphology of Atheta islandica Kraatz; Col., Staphylinidae.

Contains morphological data on this rove beetle, occurring in many localities in Finnish Lapland, Kola Peninsula, Dudinka on the lower Yenisey River, and Kamchatka. Copy seen: DLC.

47564. RENKONEN, OLAVI. Zwei neue Arten der Gattung *Philonthus*; Col., Staphylinidae. (Suomen hyönteistieteellinen aikakauskirja, 1937. v. 3, no. 2, p. 73–78, 3 illus.) Text in German. *Title tr.:* Two new species of the genus *Philonthus*; Col., Staphylinidae.

Includes a description of P. furcifer n. sp., a rove beetle occurring in Kuola-

järvi in the Kuusamo region, and Muonio in Kemi Lappmark. Copy seen: DLC,

47565. RENKONEN, OLAVI. Zwei neue Arten der Gattung Stenus (Col., Staphylinidae) aus Finnland. (Suomen hyönteistieteellinen aikakauskirja, 1935, v. 1, no. 1, p. 27–32, 6 illus.) Text in German. Title tr.: Two new species of the genus Stenus (Col., Staphylinidae) from Finland.

Includes a description of S. (Nestus Rey) confusoides n. sp., collected on the bank of the Muonio River in Kemi Lappmark, and comparison with some related species of rove beetles.

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47566. RENQVIST, HENRIK, 1883—. The inland waters of Finland. Helsinki, 1936. 55 p. 13 diagrs., 13 text maps, 9 tables. (Finland. Hydrografien toimisto. Tiedonantoja, 9. Meddelanden från Hydrografiska byrån.)

Rivers and lakes are considered generally: area, occupance, causes of abundance and variations, topography, irregularity, thermal conditions, etc. Their importance in navigation, industry, and climate are discussed. Discharge, water power, its utilization, and related problems are treated. Much of the information is mapped, graphed, and tabulated.

Copy seen: DGS.

47567. RESEARCH AND ENGINEERING. Russians build nuclear merchant-icebreaker. (Research and engineering, Jan. 1956. v. 2, no. 1, section 1, p. 14.) Also: New York Times, Nov. 26, 1955, p. 4.

Notes that the Russians are building an atomic-powered merchant ship for use in the Arctic. The ship will be equipped with high-pressure steam nozzles to melt the ice, will have the hull of an ice-breaker, displacement of 25,000 tons and a maximum speed of about 24 knots. The nuclear power plant will develop about 200,000 kw. Copy seen: DLC.

REUZE-BLOM, SUZANNE, see Rijlant, P., and S. Reuse-Blom. Le blocage par le froid . . . 1956. No. 47586.

REVELLE, ROGER RANDALL DOUG-AN, 1909—, see Allen, W. E. Surface plankton diatoms . . . 1936. No. 43585.

47568. REVUE DE L'ALUMINIUM. Le matériel de l'expédition Paul-Émile Victor au Groenland. (Revue de l'aluminium, June 1950. année 27, no. 167, p. 248–51, illus.) Text in French, English, Spanish. *Title tr.:* The material of the Paul-Émile Victor expedition

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Photographs, with notes, representing the 1949 expedition which established camp at 71° N. 40° W. Various uses made of light metals and metal alloys in the expedition's equipment are stressed. The applications shown include skis and sleds, radio equipment, prefabricated buildings, and supply containers designed for air drop. Copy seen: DLC.

47569. REZVOĬ, PETR DMITRIEVICH. Trichasterina bispiculigastra novaſa shestiluchevaſa gubka iz Barenſsova morſa. (Leningrad. Leningradskiĭ nauchnyĭ institut imeni P. F. Lesgafta. Izvestíſa, 1923. nov. ser., t. 7, p. 35–37.) Text in Russian. Summary in German. Title tr.: Trichasterina bispiculigastra, a new hexactinellid sponge from the Barents Sea.

Description of an incomplete specimen found at 72° N. 33°30′ E., and 266 m. depth by Derûgin during a trip in 1921 along the Kola meridian (cf. No. 3891). Characteristics differentiating it from the most closely related form, *T. borealis* F. E. Schulze, are also discussed.

Copy seen: DLC.

47570. RHL, H. V. En vintertur till Harsprånget, April 1891. (Svenska turistföreningen, Stockholm. Årsskrift, 1892, p. 256–58.) Text in Swedish. Title tr.: A winter journey to Harsprånget, April 1891.

Winter conditions still prevail in the waterfalls of northern Sweden in April; limited water supply and ice-covered outcrops are the main characteristics contrasting with summer conditions. Travel accommodations from Gällivare to Aborrträsk are noted.

\*\*Copy seen: DGS.\*\*

RHODE RUSSEL, see Ederstrom, H. E., and others. Correlations . . . skin temperature and blood flow . . . dog. 1956. No. 44722.

47571. RÂBININ, BORIS STEPAN-OVICH. Lîubitel'-sobakovod; sovety nachinafushchemu. Molotov, Molotovskoe knizhnoe izd-vo, 1955. 159 p. illus. Text in Russian. *Title tr.:* The amateur dog breeder; advice for a beginner.

Basic principles of dog breeding are explained: selection of breed and choice of puppy; housing and feeding the animals; training them; dog diseases; education of dog breeders, etc. The Siberian husky is described as an outstanding northern breed (p. 31–32) and its services in the recent Soviet arctic expeditions are noted.

Copy seen: DLC.

47572. RÁBOV, Ñ., and A. GRIGOR'-EV. Na rodine ural'skikh ametistov. (Ogonëk, Jan. 1956. god 34, no. 2, p. 20.) Text in Russian. Title tr.: In the land of Ural amethysts.

Notes occurrence of amethysts and other precious and semi-precious stones in the Ural near the village of Murzinka (approx. 59°15′ N. 59°30′ E.) and on geological investigation of this region in 1955.

\*\*Copy seen: DLC.\*\*

47573. RIBERI, ANGELO, and others. Ventricular fibrillation in the hypothermic state, 1; prevention by sinoauricular node blockade. (Annals of surgery, Feb. 1956. v. 143, no. 2, p. 216–22, illus., tables.) 7 refs. Other authors: H. Siderys and H. B. Shumacker, Jr.

Contains account of experiments with dogs which demonstrated that sino-auricular blockade with procaine is very effective in preventing ventricular fibrillation in dogs made hypothermic and subjected to various cardiac stimuli. Parts 2, 4 and 5 of this series were listed as No. 42074A, 42074B, 47981.

Copy seen: DLC.

47574. RIBERI, ANGELO, and others. Ventricular fibrillation in the hypothermic state, 3; the management of coronary air embolism and ventricular fibrillation. (Archives of surgery, Mar. 1956. v. 72, no. 3, p. 502–507, illus., tables.) 5 refs. Other authors: H. Kajikuri and H. B. Shumacker, Jr.

Contains a study of the two potential complications of hypothermic cardiac surgery: air embolism and ventricular fibrillation; and means of their prevention and therapy. A series of means is presented against embolism; electric shock and, to a lesser degree, sino-auricular node blockade proved effective against fibrillation. Copy seen: DNLM.

RIBERI, ANGELO, see also Rodriguez, R. W., and others. Hypothermia . . . complications . . . control. 1956. No. 47629.

RIBERI, ANGELO, see also Shumacker, H. B., and others. Ventricular fibrillation . . . hypothermic state, 4 . . . role . . . innervation. 1956. No. 47981.

47575. RICCARDI, MARIO. L'isola artica di Southampton, Canada. (Società Geografica Italiana. Bolletino, Nov.—Dec. 1955. ser. 8, v. 8, fasc. 11–12, p. 537–45, text map.) 2 refs. Text in Italian. Summary in English. *Title tr.*: The arctic island of Southampton, Canada.

Based on No. 28139, summary account of exploration of the island in the 17th–20th centuries, physical geography, geology, effects of Pleistocene glaciation, the Sadlermiut Eskimos who died out in 1902–1903, and present inhabitants, the Aivilik and Okomiut Eskimos, who numbered 238 in 1951.

Copy seen: DLC.

47576. RICE, ELBERT F. Destruction of piling by marine borers. (*In:* Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 22–24.)

The several kinds of borers active in Alaska and their damage to wooden marine structures are outlined, and control methods are discussed briefly. The only effective control methods are full-cell creosote treatment and concrete coatings. Creosoted wood may be expected to last 30 years or more in salt water as compared with two to five years for untreated wood.

Copy seen: DGS.

47577. RICH, EDWIN ERNEST, 1904 - Which Jolliet? (Beaver, Autumn 1956. Outfit 287, p. 18–21, illus., text map.)

Describes French mission of Louis Jolliet in 1679 to investigate the Hudson's Bay Company's position on James Bay. There is evidence that his brother Zacharie sailed around Labrador and into Hudson Bay in the same year with a certain La Lande; they traded furs with the Indians, then with the Governor of Hudson's Bay who received them hospitably. Another voyage was made, and in 1685 when a French expedition was sent against the English, Zacharie Jolliet warned the posts at Rupert River and Albany in advance.

Copy seen: DLC.

47578. RICH, WILLIS HORTON, 1885— . Migration of salmon in the Alaska Peninsula region. (Washington Academy of Sciences. Journal, Oct. 4, 1924. v. 14, no. 16, p. 397.)

Investigation by the Alaska Fishery

Reservation 1922–1923 showed that red salmon taken near the end of the Peninsula and along its southern shore belong mainly to the Bristol Bay run. Apparently the feeding grounds are along the continental shelf of the North Pacific, and on the return migration to home streams in the Bristol Bay, the fish pass through Isanotski Strait.

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RICHARDS, ADRIAN F., see Snodgrass, J. M., and A. F. Richards. Observations . . . underwater volcanic acoustics . . . 1956. No. 48096.

RICHARDS, JOHN B., see Egdahl, R. H., and J. B. Richards. Effect of extreme cold exposure . . . adrenocortical function . . . 1956. No. 44735.

RICHARDS, JOHN B., see also Egdahl, R. H., and others. Tolerance...dog to extreme cold...1956. No. 44736.

RICHELME, H., see Vernejoul, R. de., and others. Tentatives de prolongation de l'arrêt circulatoire sous hypothermie. . . . 1956. No. 48726.

RICHMOND, J., see Adolph, E. F., and J. Richmond. Adaptation to cold . . . measured . . . body cooling. 1956. No 43490.

RICHMOND, J., see also Adolph, E. F., and J. Richmond. Water exchanges . . . isolated mammalian tissues . . . low temperatures. 1956. No. 43492.

RICKARD, P., see Wilson, E. M., and P. Rickard. Frozen words. 1956. No. 48975.

47579. RIDGE, JOHN DREW, 1909—. The geology of the iron ores of Kiruna and Gällivare in Sweden. (Mineral industries, June 1956. v. 25, no. 9, p. 1–6, 2 illus., port., 3 text maps.) 9 refs.

High grade iron ore reserves total about 3 billion tons in the Kiruna (67°51′ N. 20°13′ E.) and Gällivare (66°10′ N. 20°35′ E.) regions and several unmined deposits. Ore averages 1.0–2.0 percent phosphorous and 60–68 percent iron in the unconcentrated form. Iron of most deposits is almost entirely magnetite, but hematite makes up about 20 percent of the Gällivare ore and most of the Rektor ore body (Kiruna). Geology and formation of the Kiirunavaara and Rektor ore bodies of the Gällivare district, and ore bodies of the Gällivare district

(Stora Malmlagret, Koskullskulle, Kaptenslagret) are described. The geologic history and environments of these ironapatite deposits are similar. Differences may result from rate at which volatiles escaped from the respective magmas or to original differences in nitrogen oxide content. Copy seen: DGS.

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47580. RIDGWAY, ROBERT, 1850-1929. A catalogue of the birds of North America. (U. S. National Museum. Proceedings, Aug.-Sept. 1880. v. 3, p. 163-246.)

Contains a simple list of 764 Latin and vernacular names of valid species and 160 of subspecies (924 definable forms). Appended are various lists, with references, occasional diagnoses and data on distribution, species and races added since 1859 (p. 214-28), species occurring in Greenland and Alaska (p. 229-31), etc. Tables of families of North American birds and index to the genera are added. This supersedes two previous catalogs of similar title, by S. F. Baird, pub. 1858 and 1859.

Copy seen: DLC.

47581. RIDGWAY, ROBERT, 1850-1929. Descriptions of two new thrushes from the United States. (U. S. National Museum. Proceedings, Apr. 6, 1882. v. 4, p. 374-79.)

Includes a description and measurements of specimens examined of Bicknell's thrush, Hylocichla aliclae bicknelli, a new race recorded in Alaska on Kodiak Island, and at Fort Anderson and Fort Simpson in northern Canada.

Copy seen: DLC.

47582. RIDGWAY, ROBERT, 1850-1929. A review of the American species of the genus *Scops*, Savigny. (U. S. National Museum. Proceedings, Aug. 1878, v. 1, p. 85-117.)

Contains a discussion of this genus of owls, keys to the species and races. Seven species and some geographical races are described with synonyms, measurements, lists of specimens, critical remarks and data on distribution. S. asio kennicotti, native to Alaska and Sitka, is included.

Copy seen: DLC.

47583. RIDGWAY, ROBERT, 1850-1929. Revision of nomenclature of certain North American birds. (U. S. National Museum. Proceedings, Mar. 27, 1880, v. 3, p. 1-16.)

Emendations of nomenclature applying to species enumerated in Coues' Check

list, 1873 q. v. (635 species), and others. A few species native to Alaska and Aleutian Islands are included.

Copy seen: DLC.

RIEBER, PAUL, see Vollan, O. Ishav-sfart... 1951. No. 48798.

RIESENBERG, F., see Explorers Club. Told . . . Explorers Club . . . tales . . . 1931. No. 44832.

47584. RIETZ, E. B. Considerations in the operation of outdoor oil circuit breakers under low ambient temperatures. (American Institute of Electrical Engineers. Transactions, Aug. 1953. v. 72, pt. 3, p. 787-93, illus., tables, graphs, maps) discussion by F. A. Lane and E. B. Rietz.

The effect of low temperatures on materials used for the design of oil circuit breakers and on the operation of these devices is reviewed, after indicating average minimum temperatures recorded in the United States for 47 years. The characteristics of materials such as oil, air, molded plastics, laminated plastics, rubber-like materials, porcelain, ferrous metals, non-ferrous metals, and concrete at low ambient temperatures are re-Operation and maintenance viewed. Heating units problems are discussed. must be used on air-operating mechanisms at temperatures below 32° F., and outdoor oil circuit breakers require special consideration where the average daily temperatures for the coldest month are 20° F. and below.

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RIGBY, MALCOLM, 1909—, see Thuronyi, G., and others. A selective . . . bibliography . . . micrometeorology of snow cover. 1956. No. 48392.

RIGSBY, GEORGE PIERCE, 1915—, see Sharp, R. P., and G. P. Rigsby. Some rocks . . . St. Elias Mountains . . . 1956. No. 47923.

47585. RIJLANT, PIERRE, and L. PALAGI. L'action du froid sur la contraction du ventricule du cœur de lapin. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 7, p. 1481–84, illus.) Ref. Text in French. Title tr.: The effect of cold on contraction of the heart ventricle of the rabbit.

An analysis of contractions of the various regions in the isolated heart ventricle chilled by perfusion to 20-25° C., or to 5° C. Effects of differential cooling of the heart are also described.

\*Copy seen: DNLM.\*

47586. RIJLANT, PIERRE, and S. REUSE-BLOM. Le blocage par le froid de la conduction terminale dans l'oreillette du cœur de lapin. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 7, p. 1479–81, illus.) Ref. Text in French. Title tr.: Cold-block of terminal conduction in the auricle of the rabbit heart.

Account of investigation of the right auricle in an isolated preparation, cooled and subsequently rewarmed. Contractions at 20°, 12° and 2° C. are described and compared with those at normal temperature. The effect of adrenaline is also discussed.

\*Copy seen: DNLM.\*

47587. RIKHTER, GAVRIIL DMI-TRIEVICH, 1889—. Po@vlenie snezhnogo pokrova. (Priroda, Nov. 1956, no. 11, p. 123–24, text map.) Text in Russian. *Title tr.:* The appearance of snow cover.

Mean dates of the first snow cover are mapped (isolines) for European and Asiatic U. S. S. R. The first snow rarely stays throughout the winter, except in the far North of European Russia and northeastern Siberia. Usually snow melts four-five times in southwestern and southeastern European Russia, and three times in the Northwest before the winter settles in. This "pre-winter" period of 30-70 days in most of European U. S. S. R., is often lacking in the northeastern part and in northeastern Siberia.

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47588. RIKHTER, GAVRIIL DMITRIE-VICH, 1889—. Prirodnye usloviía Srednego Priangar'ía i basseina verkhneí Leny. (Akademiá nauk SSSR. Institut geografii. Trudy, 1955, vyp. 64, Materialy po fizichesko! geografii SSSR, 1, p. 105–159, illus., 2 fold maps.) 51 refs. Text in Russian. Title tr.: Natural conditions of the Middle Angara region and upper Lena River basin.

A general geomorphic description of the Angara-Lena region, approx. 53°20′-57°20′ N. 98-108° E., is offered, based in part on data from a reconnaissance in 1950 headed by the author. Plans for Angara power development to promote industry in adjacent areas prompt this presentation. The natural districts (19) are distinguished and grouped in geomorphic types: forest-steppe, plain,

southern-, middle-, and northern-taiga, and the Baykal mountainous zone. Orography (relief), stratigraphy, lithology, mineral resources, hydrology (of rivers and marshes), soils and vegetation are outlined for the region as a whole and for each district in turn. Distribution of the population and economic potential of the region (mineral resource, forest, water power development) are noted. Fold. maps show orography and natural divisions of the region.

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RIKHTER, GAVRIIL DMITRIEVICH, 1889- , see also Akademiâ nauk SSSR. Institut geografii. Sneg i talye vody. 1956. No. 43523.

RIKHTER, GAVRIIL DMITRIEVICH, 1889– , see also Akademia nauk SSSR. Institut geografii. Voprosy izuehenia snega . . . 1955. No. 43525.

RIKHTER, GAVRIIL DMITRIEVICH, 1889—, see also Aprodov, V. A. O morfotektonike..., 1956. No. 43715.

RIKHTER, GAVRIIL DMITRIEVICH, 1889 - , see also Obruchev, S. V. Spravochnik puteshestvennika . . . 1949–50. No. 47123,

47589. RILEY,PHILIP A., Jr., and others. Ventricular fibrillation during hypothermia; tolerance of the hypothermic dog heart to ventricular fibrillation. (Archives of surgery, Dec. 1956. v. 73, no. 6, p. 985-88, tables.) 4 refs. Other authors: T. G. Barila and C. W. Hughes.

Account of experiments with dogs made hypothermic till fibrillation occurred and resuscitated after 30 minutes of fibrillation; one group of these animals had a pulmo-aortic fistula made, another was made cyanotic by heart surgery, and a third served as control. The last two groups had a high rate of revival (92 percent); of the first one, only 53 percent survived. It is suggested that failure to develop and maintain an adequate blood pressure following defibrillation is the cause of high mortality in that group.

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47590. RILEY, PHILIP A., Jr., and others. Ventricular fibrillation in hypothermic dogs as influenced by thiopental, pentobarbitol and succinylcholine. (Anesthesiology, Mar. 1956. v. 17, no. 2, p. 277–83, illus., table.) 19 refs. Other authors: T. G. Barila and C. W. Hughes. Of the three anesthetics tried in immer-

sion hypothermia, thiopental significantly lowered the incidence of ventricular fibrillation and the mean temperature at which it occurred.

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RILEY, PHILIP A., Jr., see also Segar, W. E., and others. Urinary composition . . hypothermia. 1956. No. 47874.

RILEY, PHILIP A., Jr., see also Villalobos, T. J., and others. The effect . . . hypothermia on platelets and white cells . . . 1956. No. 48755.

RIMSKAÍA-KORSAKOVA, 47591. O. M. Kristallograficheskoe izuchenie ramzaita s g. Punkarualv v Lovozerskikh tundrakh. (Leningrad. Univer-Uchenye zapiski, 1939. Serifa geologo-pochvennykh nauk, no. 34, vyp. 7, p. 100–114, diagrs., illus. tables.) 4 refs. Text in Russian. Summary in English. Title tr.: Crystallographic investigation of the ramsayite from the Punkaruayv mountain in Lovozerskaya tundras.

The ramsayite was found by A. E. Fersman in 1921 and studied further by the author in 1936. The crystals of ramsayite were collected in small lensshaped bodies, bedded in lujaurites. These bodies consist of lamellar albite, containing eudyalite, ramsayite, murmanite, zeolites, schizolite and neptunite. The results of the goniometric measurement of crystallic ramsayite disclosed new data on the crystallographic properties (cf. illus. and tables). Reduced gnomonic projection of all observed forms and rays is shown (fig. 4, p. 109). These small, clean and perfectly developed ramsayite crystals are studied for the first time. Copy seen: DLC.

RINDOM, ERIK, see Bogen om Knud . . . 1945. No. 44073.

47592. RINGDAHL, OSCAR, 1885—. Flugor: Diptera brachycera. (In: Sjöstedt, Y. Insektfaunan inom Abisko nationalpark, III, pub. in Svenska vetenskapsakademien. Skrifter i naturskyddsärenden, 1931, nr. 18, p. 1–32, tables.) Text in Swedish. Title tr.: Flies: Diptera Brachycera.

Of the dipterous fauna studied around Abisko and neighboring regions west of Torneträsk, the family Muscidae received most attention; this report therefore is somewhat uneven and incomplete. Species differ greatly from those of southern Sweden; annual variation in numbers is noticeable. Of the 570 tabulated, with locations where collected, those found in restricted alpine, subalpine, and other habitats are differentiated. Appended is a simple list of some hundred species collected by K. H. Forsslund in Abisko nationalpark in 1930, with note of location, date, habitat.

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47593. RINK, RICHARD A., and others. The effect of hypothermia on morphine metabolism in an isolated perfused liver. (Anesthesiology, May 1956. v. 17, no. 3, p. 377-84, illus., tables.) 14 refs. Other authors: I. Gray, R. R. Rueckert and H. C. Slocum.

Account of an investigation concerning the effect of hypothermia (24° C.) on O<sub>2</sub>-uptake, CO<sub>2</sub>-production, morphine and thiopental detoxification, and bile formation in the isolated rabbit liver. It is believed that the activities observed can be attributed to respiration and oxydative phosphorylation. **Copy seen:** DNLM.

RINK, RICHARD A., see also Gray, I., and others. Effect . . . hypothermia . . . isolated perfused . . . liver. 1956. No. 45210.

47594. RIOPELLE, ARTHUR J. Accustomization and indoctrination studies relating to cold weather living and the use of Quartermaster clothing and equipment. Natick, Mass., Aug. 1956. v, 76 p., illus., tables. (U. S. Army. Quartermaster Research and Development Command. Environmental Protection Division. Technical report EP-32, project reference 7-95-20-003A.) 19 refs.

Contains account of development of a cold weather information survey and its application. The survey is designed to evaluate the soldier's knowledge of fundamentals in cold weather living and of the Quartermaster's items of issue (tents, clothing, sleeping bags, etc.), their use and care. Experiments were also performed to determine the effectiveness of various aspects of military experience. The questionnaires and forms applied in the survey are reproduced in appendixes (p. 50-76). Copy seen: DLC.

47595. RIPLEY, PHILIP O. Feed and forage problems in North Western Canada. (In: Alaskan Science Conference... 1953. Proceedings, pub. 1956, p. 134–43, 8 tables.)

Contains information on climate and

soil of the area (north of 53° N. lat. and west of the Athabaska and Slave Rivers); precipitation, temperature and growth periods at selected stations, including Whitehorse (Yukon Territory) and Fort Simpson (Mackenzie District); light records at these stations; their production of wheat, oats and barley; effect of fertilizer upon these cereals; forage crops; hay crops.

\*\*Copy seen: DGS.\*\*

RIPLEY, PHILIP O., see also Wilson, J., and others. Frontier development problems . . . 1956. No. 48979.

47596. RIPPAS, BORIS. Otchet o polezdkie na Kol'skil poluostrov lietom 1894 goda dlía osmotra míestnosti ot sela Kandalakshi do goroda Koly i Ekaterininskol gavani po linii predpolagaemol S .-Peterburg-Murmanskol zhelièznol dorogi. S.-Peterburg, Skoropechatnía "Nadezhda," 1895. 183 p. illus., tables, fold. col. Text in Russian. Title tr.: map. Report of a trip to Kola Peninsula in summer 1894 to explore a route from Kandalaksha to the town of Kola and Yekaterininskaya Harbor for the projected St. Petersburg-Murmansk railroad.

Narrative of a trip in June-July 1894 by the writer's party, which crossed Kola Peninsula from Kandalaksha to Kola Bay, traveling partly afoot and partly in boats. The towns visited (Kandalaksha, Kola, Yekaterininskaya Harbor, etc.), waterways (Niva, Kola, Tuloma, and other rivers, Lake Imandra, etc.), are described. The country traversed, forests and tundras, etc., are characterized. Some account is given of the fisheries (herring), and the population, including Lapps (p. 48-52). Plans for construction of the railroad are discussed, p. 153-83.

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RISKA, DAPHNE, see Frondel, C., and others. X-ray powder data . . . uranium . . . 1956. No. 44992.

47597. RISTVEDT, PEDER, d. 1955. Minner fra "Gjøa"-ferden; en deltager forteller. (Polarboken, 1956, p. 137-46, illus.) Text in Norwegian. Title tr.: Remembrances from the Gjøa trip as recounted by a participant. Continued from No. 42094.

Eskimo home life and hunting methods near the Canadian arctic coast are described. In Aug. 1905, the  $Gj\phi a$  resumed the voyage westward, met the whaler, Charles Hanson, and continued to the Mackenzie delta where the crew spent the winter. Copy seen: DLC.

47598. RITAVUORI, KAARLO JAL-MARI. Kuusamon alueelle (Ks) uusia perhosia Sallasta. (Suomen hyönteistieteellinen aikakauskirja, 1938. v. 4, no. 3, p. 187–88.) 2 refs. Text in Finnish. Summary in German. Title tr.: Butterflies from Salla, new to the fauna of Kuusamo region.

Contains a simple list of 23 species and forms of large butterflies (Macrolepidoptera) added to the fauna of the region since Grönblom's enumeration in 1936 (No. 6270).

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47599. RITCHIE, J. C. Additions and extensions to the flora of Manitoba. (Rhodora, Nov. 1956. v. 58, no. 695, p. 321-25.) 15 refs.

Contains an annotated list of 20 plants, collected mostly in the summer of 1955 in two areas in northwestern Manitoba: at MacBride Lake (56°52′ N. 99°57′ W.) and Tod Lake (56°45′ N. 101°47′ W.); the distribution in other parts of the province, including the coast of the Hudson Bay (Churchill), is also indicated.

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47600. RITCHIE, J. C. The native plants of Churchill, Manitoba, Canada. (Canadian journal of botany, Mar. 1956. v. 34. no. 2. p. 269–320. 2 illus.) 70 refs.

v. 34, no. 2, p. 269–320, 2 illus.) 70 refs. Contains an annotated list of 270 species of native vascular plants, seven new to the region; one new variety is described. The flora consists of 53 percent arctic and subarctic plants, 45.5 percent boreal and 1.5 percent cosmopolitan species. Earlier botanical work and physical conditions in the region are reviewed in the introduction.

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47601. RITCHIE, J. C. Studies on the flora and vegetation of the taiga zone of northern Manitoba. (Arctic, 1956. v. 9,

no. 3, p. 211-12.)

In the Seal River area at 59°03′ N. 96°47′ W. during June-Aug. 1956, vascular plants, mosses and lichens, tree height and diameter data and increment cores were collected; detailed descriptions and quantitative analyses of vegetation types were compiled, and various edaphic studies were made. The region lies within the Precambrian Shield at the transition between continuous forest and forest-tundra. Plant communities in glacial till-covered areas, on the large esker traversing the region, and along rivers are noted. Copy seen: DLC.

47602. RITCHIE, J. C. The vegetation of northern Manitoba, I; studies in the southern spruce forest zone. (Canadian journal of botany, July 1956. v. 34, no. 4, p. 523-61, 7 illus., 2 plates, 8 tables.)

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Contains a brief account of the topography, geology and climate, followed by an ecological study of the region. The predominant and stable forest of mesic sites is dominated by Picea mariana, with a ground vegetation composed chiefly of weft-form mosses (tables 1-3). Pinus banksiana dominates various forests of outcrop ridges, sand plains and eskers (tables 4-7). Picea glauca is rare in the The vegetation conforms with descriptions of the southern spruce forest zone of eastern Canada. A highly local community of Betula papyrifera var. neoalaskana on organic ridges is described. Copy seen: DLC.

47603. RITCHIE, J. M., and R. W. STRAUB. The effect of cooling on the size of the action potential of mammalian non-medullated fibers. (Journal of physiology, Dec. 1956. v. 134, no. 3, p. 712–17. illus.) 8 refs.

Account of experiments with fibers from the whole cervical sympathetic trunk of the rabbit. A fall of temperature caused an increase of action potential; the greatest effect observed was a 1.8 times increase in spike height for a temperature drop of 10° C. The effect of cooling depended on conduction distance.

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47604. RITENBERG, M. I. Tipizatsifa permskikh ugol'nykh basseinov SSSR. (Akademifa nauk SSSR. Laboratorifa geologii uglfa. Trudy, 1956, vyp. 6, Materialy vtorogo ugol'nogo geologicheskogo soveshchanifa, p. 83–90, tables, fold. map.) 11 refs. Text in Russian. Title tr.: Typification of Permian coal basins of the U. S. S. R.

Characteristics of Pechora, Tungusskiy, Taymyr and Noril'sk coal deposits are included and the extent of these coalfields is shown schematically on the map.

Copy seen: DLC.

47605. RĪŪMKIN, ĪAKOV, and M. RED'KIN. Za poliārnym kolom. (Ukraina, Nov. 1956, no. 21 (180), p. 3, illus.) Text in Ukrainian. Title tr.: Above the Arctic Circle.

Photographs of new settlements in Khibiny: the main street in Monchegorsk, copper-nickel mining and production, hot-house at Kirovsk, nursery in Olenegorsk; brief explanatory text stresses economic advances in this area.

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47606. RIVANO, RENATO, and others. L'attività procainesterasica del sangue e dell'encefalo nell'animale in stato di ipotermia. (Minerva anestesiologica, July 1955. anno 21, no. 7, p. 170–172, tables.) 14 refs. Text in Italian. Summary in English. Other authors: P. Filippi and C. Saccon. Title tr.: Procaine-esterase activity of the blood and brain in hypothermic animals.

Rabbits with direct cerebral hypothermia showed a very slight increase of novocaine hydrolysis in the blood and an evident lowering of this activity in the brain; an explanation for the latter behavior is offered.

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47607. RIVOLIER, JEAN. Lipides et froid. (Société Scientifique d'Hygiène Alimentaire. Bulletin, 1956. v. 44, no. 7–9, p. 203–217, tables.) 15 refs. Text in French. Title tr.: Lipids and cold.

Contains a brief review and discussion on the role of fat in heat production and regulation; diet and resistance to cold; fat metabolism, nutritional physiology and cold, etc. This is followed by account of diets of the French expedition in Adélie Land (author a participant), high altitude and army diets.

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ROBBINS, H. C., see Benninghoff, W. S., and H. C. Robbins. Botanical investigations . . . Operation Ice Cap. 1954. No. 43960.

ROBBINS, L. G., see Gordienko, P. A. A study . . . ice regime in Arctic Seas . . . 1956. No. 45184.

ROBBINS, L. G., see also Strel'nikov, I. D. K poznaniû fauny . . . 1955. No. 48228.

ROBERSON, W. J., see Imig, C. J., and others. Blood flow . . . limbs . . . exposure to cold. 1956. No. 45687.

ROBERSON, W. J., see also Imig, C. J., and others. Comparison of blood flow...innervated and in sympathectomized legs...cold. 1956. No. 45688.

47608. ROBERTS, BRIAN BIRLEY. Abstract of the Universal Decimal Classification for use in polar libraries. Cambridge, Eng., Scott Polar Research Institute, Jan. 1956. 208 p. Mimeographed. 3 refs. Supplement issued Jan. 1956. 7 p.

Supercedes the "Abstract" published in 1950 and incorporates all Supplements issued prior to 1956 (No. 25592, 31643, 37086). Introductory discussion on the organization of polar information, and choice of the Universal Decimal Classification, is followed by systematic tables, p. 7–92. Auxiliary numbers for regional classifications, subject and regional indices are added. Copy seen: CaMAI.

ROBERTS, BRIAN BIRLEY, see also Armstrong, T. E., and B. B. Roberts. Illustrated ice glossary. 1956. No. 43742.

47609. ROBERTS, PALMER W. Emergency, temporary, and semipermanent housing for polar areas. [Washington, D. C.] 1956. 2 p.1., 28 p. illus., diagrs., tables. (*In*: U. S. Office of Naval Operations. The dynamic North,

v. 2, no. 6.) 19 refs.

Standards for the construction of shelters and buildings in arctic and subarctic areas are presented. The use of snow for building shelters is described, building of snow caves, snow houses, earth and wood houses is described and diagrammed; types of tents and their features are discussed. Building design criteria are considered, particularly for insulation, condensation and ventilation; thermal properties and vapor transmission rates of various building materials are tabulated. The use of wanigans, Jamesway huts, and of prefabricated housing is discussed, with emphasis on the erection and efficiency of modern prefabricated structures such as the Quonset hut, stressed skin plywood buildings, and the military arctic hut. Copy seen: DLC.

47610. ROBERTS, PALMER W. Employment of Eskimos by the Navy at Point Barrow, Alaska. (In: Alaskan Science Conference . . 1952. Proceedings, pub. 1954, p. 40–43.)

The possibility of utilizing Eskimo personnel in the Naval Petroleum Reserve was investigated in May 1946. They were well qualified as guides, and capable of all camp duties. With a little training they would work well as laborers; carpenters, tractor drivers, warehousemen, oilers, and as helpers for electricians, plumbers and drillers. With a minimum of supervision they would be able to handle the more specialized jobs of

small boat, landing craft, grader and dozer operations. The high incidence of tuberculosis involved full medical examination for insurance purposes; but the 35 Eskimos initially hired in July increased to 80 during August, then decreased to 56, as tasks were completed. A description of the procedures invoked to improve health and living conditions of the Eskimos employed is included.

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ROBERTS, PALMER W., see also Stefansson, V. Natural cold storage. 1956. No. 48185.

47611. ROBERTSON, EUGENE CORLEY, 1915—. Magnetite deposits near Klukwan and Haines, Southeastern Alaska. Washington, D. C., 1955. 38 p. 9 maps incl. 8 fold., 2 fold. graphs, 7 tables. (U. S. Geological Survey. Reports, open file series, no. 363.) 11 refs.

Describes magnetite-bearing pyroxenite bodies in the Klukwan-Haines region (59°14′-24′ N. 127°27′-54′ W.). area is underlain by Mesozoic rocks including intrusives of the Coast Range batholith, metabasalt (recrystallized lava flows and pyroclastics), slate and lime-The iron deposits are found at or near contact between the metabasalt and epidote diorite of the batholith. lode deposit at Klukwan contains about 13 percent magnetic iron; deposits at Haines are apparently lower in grade. Alluvial fan adjoining Klukwan body contains several hundred million tons of broken rock with magnetic iron content of about 10 percent. Copy seen: DGS.

ROBERTSON, GEORGE W., see Appleman, H. Low-temperature fog . . . 1956. No. 43711.

47612. ROBERTSON, O. C. S. Sea navigation methods in northern Canada. (United States Naval Institute, Annapolis, Md. Proceedings, Aug. 1956. v. 82, no. 8, p. 892–96, illus.) Also pub. in: Crowsnest, Aug. 1956, v. 8, no. 10, p. 5–7, illus.

The majority of the navigation problems in Canadian Arctic waters derive from lack of reliable hydrographic information: inadequate charts, little or no data on tides or currents, sparse soundings, absence of buoys, lights, etc. The prevalence of poor visibility, and mirage effects during good visibility restrict celestial observations. Considerable use is made of radar in navigating this area. 47613. ROBERTSON, R. GORDON. Radio in the Northwest Territories. A brief presented to the Royal Commission on Broadcasting. [Ottawa?] Apr. 1956. 16 p. 2 text maps. Mimeographed.

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Need for improved broadcasting facilities in areas with no telephone, limited telegraph, and no daily newspapers is shown by the Territories' Commissioner. Existing facilities in a few communities are limited to 50-75 mi. range and are adequate in none. In large areas, broadcasts from the U.S.S.R. are among those most clearly received. Recommendations are made for a transmitter powerful enough to reach the Mackenzie valley-Great Slave Lake area from southern Canada, and for local stations to receive and re-broadcast transmissions; a Northern Broadcasting Service is advocated. Possible role of radio in educational services to whites and natives is discussed. Maps show relative quality and frequency of reception from Canada, U.S. A., and U. S. S. R., and distribution of population in Northwest Territories.

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ROBERTSON, W. J., see Hines, H. M., and others. Comparison of blood flow . . . 1956. No. 45550.

47614. ROBERTSSON, JERKER. Isavsmältningsstudier i södra Lapplands fjälltrakter; ett preliminärt meddelande. (Geologiska föreningen, Stockholm. Förhandlingar, 1950. bd. 72, häfte 2, no. 461, p. 181–84, text map.) 6 refs. Text in Swedish. Summary in English. Title tr.: Studies concerning the melting away mountain region; a preliminary report.

Reports progress in determination of where the last Glacial ice melted away, citing analysis and interpretation of lateral and frontal form elements. Stream erosion and deposition on the free land surface to the south and east and ablation moraine and ice-dammed lakes near the ice border indicate the last ice to have been farther west than hitherto believed. Further work is necessary for definite conclusions.

\*\*Copy seen: DGS.\*\*

47615. ROBIN, GORDON de Q. Determination of the thickness of ice shelves by seismic shooting methods. (Nature, London, Mar. 24, 1956. v. 177, no. 4508, p. 584–86, diagr., tables.) 4 refs.

Contains revised methods for evaluation of data from seismic shootings. The major inconsistency in earlier reports was the lack of agreement of ice thickness with the surface height of the ice shelves. The idea of an approximately constant equilibrium thickness of about 200 m. for ice shelves is incorrect. Data were from Second Byrd Antarctic Expedition 1934–35 and Norwegian-British-Swedish Antarctic Expedition 1948–1952.

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47616. ROBIN, GORDON de Q., and others. The future lines of progress in glaciology: a symposium held at Bedford College, London, 8 December 1955. (Journal of glaciology, Oct. 1956. v. 2, no. 20, p. 694–703.) Other authors: W. V. Lewis, G. Manley, S. E. Hollingsworth, W. H. Ward, J. F. Nye, R. Haefeli, A. Bauer, H. H. Lamb and J. M. Hartog.

Reviews present work and discusses future research, noting such subjects as the relationship of glaciers to climate, general principles of ice study, mechanics of glacier flow, bottom and surface velocities, glacier structure, need for an international organization of glaciologists, heat balance of large ice masses, the need to combine the theoretical and practical approaches to glaciological problems.

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47617. ROBIN, GORDON de Q. Why an International Geophysical Year? (Geographical magazine, Apr. 1956. v. 28, no. 12, p. 611–18, illus., text map.)

Surveys problems relating to the physical nature of the earth and its atmosphere, studied in the late 19th century; outlines programs of the First and Second International Polar Years in 1882–1883 and 1932–1933, and some results of the latter. Subsequent advances in instruments and methods of research necessitate a new world-wide effort, planned for 1957–1958. Program and network of stations, also preparatory expeditions of various countries during 1955–1956 are noted.

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ROBIN, GORDON de Q., see also Kühn, A. Neue Feststellungen . . . Mächtigkeit . . . Inlandeises. 1956. No. 46152.

ROBIN, GORDON de Q., see also Loewe, F. P. Ice . . . temperature distribution . . . 1956. No. 46431.

47618. ROBINSON, ELMER, and G. B. BELL, Jr. Low-level temperature structure under Alaskan ice fog conditions. (American Meteorological Society. Bulletin, Dec. 1956. v. 37, no. 10, p. 506-513, 2 illus., 8 graphs.) 8 refs.

Wiresonde temperature soundings were taken during two winters, 1952-53, 1953-54, at Eielson Air Force Base, near Fairbanks, Alaska, as part of an ice fog investigation. Correlations were found between the depths of the visible fog layers and the steep portions of the temperature inversions. The latter were usually confined to the lowest 100 ft. of the atmos-The frequency of occurrence of strong surface inversions was less than had previously been expected for an arctic continental area with temperatures in the vicinity of -40° C. This is attributed to the modifying effect of the ice fog, which was usually present in the observation area at temperatures below -30° C .--From author's abstract.

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47619. ROBINSON, FLORENCE M. Core tests and test wells, Oumalik area, Alaska. With: Paleontology of test wells and core tests in the Oumalik area, Alaska, by H. R. Bergquist. Washington, D. C., U. S. Govt. Print. Off., 1956. 70 p. 5 illus. on 2 plates, 5 text maps, diagr., fold. graph, 3 fold. logs, tables. (U. S. Geological Survey. Professional paper 305-A. Exploration of Naval Petroleum Reserve No. 4 and adjacent areas, northern Alaska, 1944-53. Pt. 5, Subsurface geology and engineering data.) 11 refs.

Five core holes, ten foundation tests, and two test wells (ranging from 47 to 11,872 ft.) were drilled during 1947-1951 in the Oumalik River region on the Oumalik anticline about 100 mi. southsoutheast of Point Barrow (at approx. 69°50' N. 155°15'-156°15' W.). From reports made to the U.S. Navy by various companies and the U.S. Geological Survey, structure of the area, purpose of the tests, and (in detail) the strata penetrated, logistics, engineering, and drilling operations are described. Lithologic descriptions are given in tables based on cores and cutting samples. Summaries of thermal investigations are given by Max C. Brewer. "The stratigraphic section penetrated consists of the Nanushuk group and the Topagoruk and Oumalik formations, of Early and Late Cretaceous age, plus a unit of Late Jurassic(?) and Early Cretaceous(?) ages. Shows of oil were negligible. Drilling of Oumalik test well 1 revealed some shows of highpressure and low-volume gas which is of little present commercial use."-From author's abstract. Copy seen: DGS. ROBINSON, FLORENCE M., see also Gryc, G., and others. Mesozoic sequence in Colville River region . . . 1956. No. 45325.

ROBINSON, ROBERT J., see Mitchell, S. Q., and others. Dose-response . . . hypothermia. 1956. No. 46789.

**47620. ROBINSON, ROGER R.** Forest management and fire control problems in Alaska. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 52–54.)

Some 125 million acres are forested of approx. 265 million acres of public domain. Organized fire protection started in 1940. Losses from fire in 1940, 1949, 1950 and 1952 are noted, also costs of protection, and effects of fire on wildlife, watersheds, recreation facilities, air transport, forest industries. Of the forested land, 40 million acres are commercial forests, 85 million acres sparse woodland. Nine forest management problems in need of research are stated.

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**47621.** ROBINSON, ROGER R. Forest management and protection on the Alaskan public domain. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub.* 1956, p. 92–94.)

The fire hazard is stressed: 80 percent of the forest and range lands have been burned over one or more times since the late 1890's; 40 million acres of commercial forest, 85 million acres of woodland, and 100 million acres of rangeland need fire protection. Basic problems of the U. S. Bureau of Land Management are noted: inadequate appropriations, need for a land classification law, for a resource inventory and for research in methods of handling timber stands, and in fire,

insect, and disease control.

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47622. ROCH, ANDRÉ. Mechanism of avalanche release; le mécanisme du déclenchement des avalanches. Wilmette, Ill., U. S. Army. Corps of Engineers. Snow Ice and Permafrost Research Establishment, Apr. 1956. 11 p., illus., diagrs. (Its: Translation 52) Trans. by Mary M. Atwater from Les Alpes, 1955, fasc. 4.

Contains conclusions of studies made on various types of avalanche release, including explanations of causes. The, mechanics of release, avalanche rupture, the propagation of movement, exterior causes of release, conclusions for tourists, and an analysis of different avalanche situations are discussed.

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47623. ROCH, ANDRÉ. Rapport sur le cours de glaciologie polaire organisé par SIPRE à Thule, en août 1956. Davos, Weissfluhjoch, [Oct. 30, 1956.] 17 l. incl. 7 diagrs. (4 fold.), map. 6 refs. Text in French. *Title tr.:* Report on the course of polar glaciology organized by SIPRE at Thule, in August 1956.

An instructional course and field trip organized by personnel of the U. S. Army's Snow, Ice and Permafrost Research Establishment, from Aug. 3–23, 1956 at Tuto (20 km. SE of Thule) are described. Several scientists from other countries were invited to participate. The field trip to the 160-mi. marker northeast of Tuto required 15 days. Several stops were made along the way, and practical demonstrations given of various glaciological methods and equipment. Results of earlier glaciological studies in this area are reviewed.

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47624. ROCKIE, WILLIAM ALLAN, 1890—. Physical land conditions in the Matanuska valley, Alaska. Washington, D. C., U. S. Govt. Print. Off., 1946. 32 p. 24 illus., 3 maps (1 fold.), 7 tables. (U. S. Soil Conservation Service. Physical land survey, no. 41.) 3 refs.

Results of a field survey of 317,510 acres, 1.5 percent cleared for crop production. Physical features, climate, and vegetation of the valley (61°29' N. 149°16' W.) are described, also history of settlement, past and present attempts at farming. More detailed descriptions, resulting from the survey, are given of topography, drainage, and soils, with discussion of suitability of the land for cultivation and other uses. tables on soil types, slopes, and erosion Only 18.7 percent amplify the text. (59,435 acres) of the total acreage is classed as tillable. About three-fifths (156,257 acres) of the remainder might be used for pasture or hay, if hardy strains available; and auxiliary mountain pastures used in summer. Specialized activities such as cranberry production and fur farming have been started on non-agricultural land.

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47625. RODAHL, KÅRE, 1917- . Emergency survival in the Arctic. (Jour-

nal of aviation medicine, Aug. 1956. v. 27, no. 4, p. 368–72.) 13 refs.

Deals with the Arctic Basin, its area, climate and seasons; survival possibilities and adjustment to environment; individual and racial differences in response and adjustment to cold; physical fitness and chances of survival; indoctrination and equipment and their role in survival.

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47626. RODAHL, KÅRE, 1917— . Eskimo metabolism; a study of racial factors in basal metabolism. Oslo, Brøgger, 1954. 83 p., illus., tables, maps. (Norsk polarinstitutt. Skrifter, no. 99.) 50 refs.

Investigation was carried out in 1950-52 at the Arctic Aeromedical Laboratory, Alaska, with the aid of the Norsk Polarinstitutt: 340 basal-metabolism tests were performed on 73 Eskimos from four different localities. About half of this study is devoted to description of the settlements (Barter Island, Anaktuvuk Pass, Kotzebue, and Gambell on St. Lawrence Island), their location and climate; and to the inhabitants, their occupation and diet. This is followed by reports including medical examination, body surface area measurements, food consumption, and urinary N elimination. The basal metabolism of the Eskimos living on their own diet and examined for the first time was found significantly higher than in Whites. However, about 9 percent of this higher metabolism is attributed to apprehension and about 15 percent to the Eskimos' high-protein Hence it is concluded that no diet. racial difference exists between Eskimos and Whites in basal heat production. Copy seen: DNLM.

RODEVICH, VSEVOLOD MIKHAĬL-OVICH, see Slavin, S. V. Plavania cherez Karskoe more . . . 1949. No. 48060.

47627. RODEWALD, MARTIN. Ein verschobenes Aktionszentrum und seine Folgen. (Wetterlotse, Feb. 1955. No. 83, p. 38-40, text map.) Text in German. *Title tr:* A displaced action center and its consequences.

"In late years depressions with a southward track have been frequent in E. Atlantic. Tracks of Feb. 11-20, 1955 are shown, steered around an intense high between Iceland and S. Greenland, with very low pressure over Azores. Abnormally high temperatures were re-

corded on Greenland coasts."—Meteorological abstracts & bibliography, Jan. 1956. v. 7, no. 1, p. 47.

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**47628. RODHE, BERTIL.** The Baltic Ice Code. (Marine observer, July 1956. v. 26, no. 173, p. 151–53, illus.)

Contains history of the Baltie Ice Code. The code was devised in 1938 by the Baltie States in cooperation with the Scandinavian countries, Denmark, Germany, and the U. S. S. R. Revisions made in 1954 to meet the requirements of modern shipping are described. The code figures are listed and defined in terms of the World Meteorological Organization's Ice nomenclature of 1955.

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RODRIGUEZ, MARTIN O., see International Commission for NW. Atlantic Fisheries. Annual proceedings . . . 1955–56. 1956. No. 45703.

47629. RODRIGUEZ, R. W., and others. Hypothermia and its complications; methods of control. (Asociación médica de Puerto Rico. Boletín, July 1956. v. 48, no. 7, p. 272–78, illus., table.) 14 refs. Other authors: A. Riberi, P. F. Grice and H. Kajikuri.

Account of results based on over 400 experimental cardiac interventions under hypothermia. Preventive and therapeutic means against ventricular fibrillation, cerebral and coronary air embolism were studied, and the role of extrinsic nerve supply to the heart investigated.

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47630. RØED, HÅKON. Botrytis (gray mold) on Allium cepa and Allium ascalonicum in Norway. (Acta agriculturae Scandinavica, 1950, v. 1, no. 1, p. 20–39, illus., diagrs., tables.) 14 refs.

Mold damage to stored onions, which threatened continued onion culture in certain localities was investigated, and Botrytis allii revealed as the most common cause. It occurs where there is high humidity and low temperature, particularly along the coast and in northern regions. Onions from arctic Norway were included in the tests.

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47631. RØNNING, OLAF I. Draba crassifolia in Scandinavia. Tromsø, Tromsø museum, 1956. 20 p. text map. (Acta borealia A, Scientia, no. 11.) 26 refs.

Contains data on the taxonomy and

distribution of D. crassifolia, which has a rather disjunct area and belongs to the group of plants called "west arctic" by Scandinavian botanists. It is considered a glacial survivor from supposed ice-free refuges in the northern and northwestern parts of the Peninsula; nearly always associated with snow patches or places where the melting is late, it grows mainly on gravel with limestone or mica schist. Plants (25) found growing with D. crassifolia and their distribution in various regions of northern Scandinavia are given (p. 14). Localities in Nordland and Troms fylke of Norway and in Pite, Lule and Torne Lappmark of Sweden, are added.

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47632. RØNNING, OLAF I. Insektetende planter. (Ottar, Tromsø, Oct. 1956. nr. 8, p. 14–16, diagr.) Text in Norwegian. *Title tr.:* Insect-eating plants.

North Norway plants commonly known as sundew, butterwort, and bladderwort are discussed. Their appearance and means of capturing and consuming insects are described.

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47633. RØNNING, OLAF I. Kalkalger eller rugl. (Ottar, Tromsø, Dec. 1955. nr. 7, p. 19–22, illus.) Text in Norwegian. *Title tr.:* Lime algae or trouble.

Many kinds of lime algae grow along the coast of northern Norway. Much of the lime deposit on strandlines, used for street surfaces, originates on shallow bottoms where the algae thrive. Fishermen, whose nets are badly torn by the fresh algal incrustations on the bottom, call them "rugl", an old Norse word meaning trouble.

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47634. RØNNING, OLAF I. Marekvist eller heksekost. (Ottar, Tromsø, Oct. 1956. nr. 8, p. 22–24, illus.) Text in Norwegian. *Title tr.*: The witch's broom or witcheraft brush.

Parasitic fungus on trees develop brushlike clumps. Old-time beliefs about them are discussed. Such clumps are largely on birch in northern Norway.

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47635. RØNNING, OLAF I. Moser på møkk og kadaver. (Ottar, Tromsø, Feb. 1955. nr. 3, p. 15–16, illus.) Text in Norwegian. Title tr.: Moss on muck and cadaver.

In northern Norway are three known

mosses restricted to mammal dung and three others restricted to decaying flesh. Their umbrella-like spore cases, the odor which attracts insects, and the transfer of spores by insects to other suitable growth sites are discussed. *Copy seen:* DLC.

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47636. RØNNING, OLAF I. Nøtter. (Ottar, Tromsø, Mar. 1955. nr. 4, p. 29–30.) Text in Norwegian. Title tr.: Nuts.

Includes reference to hazelnuts growing in Norway as far north as Steigen, Nordland. Copy seen: DLC.

47637. RØNNING, OLAF I. Nye funn av Carex holostoma. (Blyttia, 1956. Bd. 14, hefte 3, p. 100-102, text map.) 5 refs. Text in Norwegian. Summary in English. Title tr.: New localities of Carex holostoma.

This sedge was collected on the border between the Karasjok and Polmak districts in arctic Norway. This is nearly midway between the species' western area of distribution in Troms and western Finnmark, and the eastern area of distribution in Sørvaranger and Petsamo areas.

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47638. RØNNING, OLAF I. Om saa kaldede løsnings-stene eller vettenyrer. (Ottar, Tromsø, Feb. 1955. nr. 3, p. 8-9, illus.) Text in Norwegian. *Title tr.:* On the so-called relaxation stone or kidney-spirit.

The seeds of two West Indian plants carried by the Gulf Stream are often found on the north Norwegian coast and farther east (13 specimens are in Tromsø Museum). The larger seed cases (Entada gigalobium) approx. 5 cm. in cross-section, have been used as snuffboxes. Some of the smaller seeds (unidentified) have been successfully sprouted.

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RØNNING, OLAF I., see also Rune, O., and O. I. Rønning. Antennaria nord-hagiana . . . 1956. No. 47704.

RØNNING, OLAF I., see also Rune, O., and O. I. Rønning. Noen plantefunn . . . 1955. No. 47705.

47639. RÖSIÖ, FOLKE. Svenska fåglar. Stockholm, Saxon & Lindström, 1953. 500 p. illus., 32 col. plates. Text in Swedish. *Title tr.:* Swedish birds.

A hundred birds are treated in turn: habit, plumage, nesting, range, etc., with photo.-illus. also artist's drawing in color (p. 13-374); Appended are brief notes

and (usually) illus. on 249 species resident or migratory in Sweden, many of them common in the North. A handbook for general rather than specialists' use, in its seventh edition. Systematic also popular name indexes are added.

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47640. RÖTHLISBERGER, HANS, and F. H. SCHWARZENBACH. Mitteilungen über die geographisch-naturwissenschaftliche Expedition 1953 nach Baffin Island. (Geographica Helvetica, 1956. Bd. 11, Nr. 4, p. 263.) 3 refs. Text in German. Title tr.: Communication on the geographical-natural science expedition, 1953, to Baffin Island.

Note on Arctic Institute of North America Baffin Island Expedition (led by P. D. Baird) to Penny Highland Icecap, Cumberland Peninsula. Swiss participants were the writers, J. Marmet, and J. R. Weber. They carried out seismic work as a group in connection with glaciological and morphological studies, also research in various other scientific fields.

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ROGACHEV, see TSivol'ka, A. K., and S. A. Moiseev. Plavanie . . . k Novol Zemlie v 1838 i 1839 . . . 1845. No. 48485.

47641. ROGAL', V. Rassvet na Angare. (Pioner, Feb. 1956, no. 2, col. plate between p. 48-49.) Text in Russian. *Title tr.:* Dawn on the Angara.

Reproduction of a painting with note on construction of the Bratsk hydroelectric station.

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47642. ROGERS, GEORGE WILLIAM, 1917— . Water development projects are begun in three Alaska villages. (Alaska's health, June 1956. v. 13, p. 1, 7.)

Contains descriptions of pilot projects at Chevak, Hooper Bay and Kwethluk. Each includes a dug well, pump and pumphouse. The launching of the projects was preceded by a U. S. Geological Survey investigation of ground water supply. Financing is by the Alaska Rural Development Board and the Alaska Public Works Agency. Each community has a trained Eskimo sanitation aide.

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ROGERS, GEORGE WILLIAM, 1917–, see also Alaska. Governor. A handbook on Alaska regionalism . . . 1955. No. 43545.

ROGERS, RAYMOND R., see Campbell, R. A., and others. Experimental . . . smelting of manganese ores. 1956. No. 44246.

47643. ROGINSKII, ĀKOV ĀKOVLE-VICH, 1895—, and M. G. LEVIN. Osnovy antropologii. Moskva, Izd-vo Moskovskogo universiteta, 1955. 502 p. illus., sketch maps, diagrs., tables. Approx. 200 refs. Text in Russian. *Title* tr.: Fundamentals of anthropology. Authorized by Ministry of Education as textbook for state universities.

Comprehensive survey of past and present theories on morphology, origin of mankind and racial anthropology. Classification, based on recent Soviet findings, distinguishes three main races with 22 subdivisions (p. 357-440). Peoples of Siberia, according to 1926 census (p. 379-86), Europe (p. 399-416), and America, including Eskimos, Aleuts and Greenlanders (p. 432-40), are described. Type photos are included. Consideration is given (p. 440-81) to the theory of the monophyletic origin of mankind and the reasons for the seeming diversity of Copy seen: DLC. races.

47644. ROIVAINEN, HEIKKI. Eriophyid news from Sweden. Helsinki, 1950. 51 p. 24 illus. (Acta entomologica fennica, no. 7.) 36 refs. Summary in Finnish.

Contains an annotated list of over a hundred gall mites collected in 1947, at least 25 in the Peldsa-Kilpisjärvi region of Torne Lappmark and around Luleå in Norrbotten; 22 described as new, about 50 new combinations are established; over 60 of the species are new to Sweden. A gall mite index and list of host plants are appended.

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47645. ROLAND, SAMUEL I. Hypothermia induced by cystoscopy. (Journal of urology, June 1956. v. 75, no. 6, p. 1006–1010, illus.) 10 refs.

Account of experiments on small dogs, with bladder irrigants of room temperature producing a fall in gastric temperature of as much as 4.5° C./hr. Two cases of hypothermia and circulatory collapse in infants are described, apparently caused by cystoscopically induced hypothermia.

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47646. ROLF, BRUNO, 1885–1934. Lancers de ballons-sondes d'Abisko de 1921 à 1929. Stockholm. 1932. 42 p. diagrs., illus., maps, 9 plates, tables. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, bd. 5, no. 5.) 36 refs. Text in French. *Title tr.:* Launching of balloonsondes at Abisko from 1921 to 1929. Previously listed as No. 14764.

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Balloonsonde operations using the Dines meteorograph in northern Sweden (approx. 68.5° N. 19° E.) are discussed. The meteorograph is described, and results of the upper air measurements are tabulated and compared with data obtained in 1907–1909. An analysis is given of the distribution of the recovery points of the instruments after launching, and the recovery points are mapped. The vertical temperature distribution is charted for approx. 65 balloon runs. Only a brief analysis of the upper air data is given. \*\*Copy seen: DWB.

ROLFE, E. J., see Hollingsworth, D. F., and others. The use of dehydrated foods . . . 1956. No. 45588.

47647. ROLLINS, REED CLARK, 1911. A monographic study of Arabis in western North America. (Rhodora, July-Sept. 1941. v. 43, no. 511-513, p. 289-325, 348-411, 425-81, 9 illus., 25 text maps.)

The genus and its relationships are discussed and artificial keys given; 53 species and many varieties are described, six species and ten varieties as new, and several new combinations established. At least six varieties are native to Alaska, the Aleutians and northern Canada; A. lyrata var. kamtschatica is recorded in Kamchatka Peninsula.

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47648. ROLLINS, REED CLARK, 1911- . Smelowskia and Polyctenium. (Rhodora, Aug. 1938. v. 40, no. 476, p. 294-305, plate 496.) Issued also as: Contrib. from Gray Herbarium of Harvard University, no. 122.

A taxonomic and micro-technical study of these two cruciferous genera: synopses are given; and two species and four varieties of Smelowskia are described, also one species and two varieties of Polyctenium. S. calycina var. integrifolia n. comb. native to Alaska (Port Clarence, Nome) and eastern Siberia (Plover Bay) is included.

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47649. ROLLINS, REED CLARK, 1911- . Studies in the genus *Hedysarum* in North America. (Rhodora, July 1940. v. 42, no. 499, p. 217-39, plate 597.) Pub. also as Contrib. from the Gray Herbarium of Harvard University, no. 131.

Discussion and synopsis of the genus are followed by descriptions of six species (one new) and six varieties (two new) of H. alpinum var. americanum (Newfoundland and "probably Alaska"), H. a. var. grandiflorum n. var. (Labrador) and H. mackenzii (northern Manitoba, Northwest Territories and Yukon Territory) are included.

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47650. ROMAN, ABRAHAM, 1872–1943. Ichneumoniden aus dem Sarekgebirge. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 4, Zoologie, Ifg. 3, pub. 1909. p. 199–374, 57 illus., 7 plates.) 54 refs. Text in German. Title tr.: Ichneumonidae from the Sarek Mountains.

Historical and statistical data (tabulated) are presented on the ichneumon fly fauna of Lapland and the Sarek Mountains; its elements are discussed and asystematic list offered of 169 species and 33 varieties (in 73 genera), of which one genus, 38 species and 15 varieties are described as new. Latin diagnoses of new forms, keys, German descriptions, critical notes and data on habitat and distribution are supplied.

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47651. ROMAN, ABRAHAM, 1872-1943. Parasitsteklar: Ichneumonidae. (In: Sjöstedt, Y. Insektfaunan inom Abisko nationalpark, II, pub. in Svenska vetenskapsakademien, Skrifter i naturskyddsärenden, 1931, nr. 17, p. 4-54.) Text in Swedish. Title tr.: Ichneumon flies: Ichneumonidae.

Lists 327 species in five subfamilies (Ichneumoninae, Cryptinae, Pimplinae, Tryphoninae, and Ophionae) collected mostly within the birch region in and near Abisko National Park. For each species, number of specimens taken, sex, dates, location and habitat are noted, with references to occurrences in other northern or alpine regions.

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47652. ROMANTSEV, E. Vniz po Umbe-reke. (Vokrug sveta, Oct. 1956. no. 10, p. 33-34, illus., col. plate, map.) Text in Russian. *Title tr.:* Down the Umba River.

Sketch of a tourists' boat trip on Kola Peninsula from Lake Umbozero down the Umba to its mouth (in summer 1956?): travel conditions, settlements, the lakes and streams, etc. *Copy seen:* DLC.

RONA, E., see Föyn, E., and others. The radioactivity of seawater. 1939. No. 44928.

47653. RONAYNE, M. Pothead roundup. (Canada. Dept. of Fisheries. Trade news, Sept. 1956. v. 9, no. 3, p. 3-5, illus.)

Description of whaling for pothead as practiced at Trinity Bay, Newfoundland. A new method of "corralling" the animals with the aid of a net, and details of other operations are discussed, together with local mink farming which began to develop due to cheap whale and fish offal.

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47654. RONOV, A. B. K istorii kolebatel'nykh dvizheniI i paleogeografii RusskoI platformy v devonskom periode. (Moskovskoe obshehestvo ispytateleI prirody. Bûlleter' 1950. god 121. Otdel geologicheskiI. t. 25, vyp. 2, p. 75–99, 8 maps.) 35 refs. Text in Russian. Title tr.: History of vibrational motion and paleogeography of the Russian Platform during the Devonian age.

Contains review of various investigations on the geological movement and paleogeography of the European Russian Platform (47°-69° N. 21°-60° E.). The discussion is illustrated by eight geological distribution maps, corresponding to the various periods of the Devonian. The significance of vibrational movements of the crust on variations of isopachous and lithologic conditions are summarized in conclusion (p. 96-98).

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RONOV, A. B., see also Vinogradov, A. P. and others. Izmenenie khimicheskogo sostava . . . 1952. No. 48757.

ROOF, R. B., see Little, C. G., and others, Radio wave propagation . . . 1956. No. 46397.

ROOF, R. B., see also Little, C. G., and others. Review of ionospheric effects . . . 1956. No. 46400.

ROOS, THOMAS B., see Wolbach, R. A., and others. Skin temperature . . . experimental frostbite. 1956. No. 48997.

47655. ROOTS, ERNEST FREDERICK, 1923- . Canadian "Operation Franklin", 1955. (Polar record, May 1956. v. 8, no. 53, p. 157-60, 2 illus., text map.)

Describes Canadian Geological Survey's reconnaissance survey of the Queen Elizabeth Islands (except eastern Devon, eastern and northern Ellesmere, Prince Patrick, and western Melville; but including Prince of Wales, Somerset and northwest tip of Baffin). During Apr.-June, three parties, flown in by DC-3, set up main field bases and fuel caches and started mapping geology from each base. Main survey during June-Sept. comprised nine two-man parties transported by helicopters to selected stations and moved to new localities every few days. Geology was observed and investigated over Airborne geophysical 80,000 sq. mi. surveys supplemented the operation. Scientific and aircraft personnel (52) are listed. Copy seen: DLC.

ROOTS, ERNEST FREDERICK, 1923-, see also Hall, H. S. A geologist in the Arctic. 1956. No. 45390.

47656. ROPPEL, ALTON Y. Peak hours of pink (Oncorhynchus gorbusha) and chum (O. keta) salmon fry migration from Old Tom Creek, S. E. Alaska, 1952. (Copeia, May 29, 1956 no. 2, p. 110-11, 2 illus.)

Contains notes on the investigation carried out in the course of a marine survival study conducted by the U. S. Fish and Wildlife Service on the east coast of Prince of Wales Island. The hourly catch of fry shown (fig. 2) is the summation of counts for 17 days, June 8-25. The migration peak was reached between midnight and 1:00 a. m., and apparently was unaffected by changes in light intensity resulting from moonlight or overcast.

Copy seen: DLC.

ROSA, G. de., see Petronio, R., and others. Saggi di rapida degradazione termica dell' organismo animale. 1956. No. 47323.

47657. ROSE, DONALD CHARLES, 1901-, and J. KATZMAN. The geomagnetic latitude effect on the nucleon and meson component of cosmic rays at sea-level. (Canadian journal of physics, Jan. 1956. v. 34, no. 1, p. 1-19, diagr., charts, map.) 18 refs.

Contains data of measurements made on the changes in intensity of the nucleon and meson components of cosmic rays during the 1954 cruise of the Canadian ice-breaker Labrador into arctic waters, through the Northwest Passage, and circumnavigating the North American continent. Geomagnetic latitudes covered

extend from 18° N. to 89° N. The latitude knee is clearly shown at a latitude of about 52° for the nucleon component and less definitely between 40° and 50° for the meson component. The nucleon component shows a significant difference in intensity between measurements going north roughly along the geographic meridian containing the geomagnetic pole and going westward from there through the Northwest Passage and the Beaufort Sea. The diurnal variation of the nucleon component in arctic regions is small and irregular as would be expected during low solar activity. Copy seen: DLC.

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47658. ROSE, DONALD CHARLES, 1901—, and others. Latitude effect of the cosmic ray nucleon and meson components at sea level from the Arctic to the Antarctic. (Canadian journal of physics, Sept. 1956, v. 34, no. 9, p. 968-84, diagrs., tables, text map.) 8 refs. Other authors: K. B. Fenton, J. Katzman, and J. A. Simpson.

Contains results of cosmic ray measurements made on board the ice-breakers HMCS Labrador during its circumnavigation of North America in 1954 and the USS Atka on its Antarctic expedition from Boston beginning in Dec. 1954. Fixed station monitors were in operation at Ottawa and at Climax, Colo. during the entire period of observations. The data clearly show that a simple eccentric dipole magnetic field does not adequately describe the outer magnetic field distribution with which the incoming cosmic ray particles interact. Copy seen: DLC.

47659. ROSE, DONALD CHARLES, 1901—, and A. G. VOISIN The low energy spectrum of cosmic-ray mesons at sea level at high geomagnetic latitudes. (Canadian journal of physics, Sept. 1952. v. 30, no. 5, p. 373–87, diagrs, graphs.) 17 refs.

A description is given of three methods employed to measure the differential range spectrum of cosmic-ray mesons at Ottawa and Resolute. General results obtained by the methods were similar and no significant differences between the two latitudes were noted. *Copy seen:* DLC.

47660. ROSE, DONALD CHARLES, 1901—. Meteorological effects on cosmic ray intensity and the meson spectrum. (Canadian journal of physics, Mar. 1951. v. 29, no. 2, p. 97–110, diagrs., table.) 18 refs.

New calculations of the "barometer" and "temperature" effects on cosmic ray intensity are presented, and results compared with measurements obtained for one year at Ottawa and Resolute (74°41' N. 94°55' W., geomagnetic lat. 83° N.). Calculations of the temperature effect do not yield results comparable with measurement, although they indicate general agreement with the expected behavior. Calculations of the barometer effect are more comparable with measurements and indicate that consideration information can be obtained about the meson spectrum from measurements of the barometer coefficients. Copy seen: DLC.

47661. ROSE, DONALD CHARLES, 1901- , and J. KATZMAN. The sudden increase in cosmic ray intensity of February 23, 1956. (Canadian journal of physics, Aug. 1956. v. 34, no. 8, p.

884-87, diagrs.) 2 refs.

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Contains preliminary results of measurements made at Ottawa with neutron monitors and counter telescopes and at Resolute (Cornwallis Island) with a counter telescope. Several features of the increase are noted but the only conclusion is that the magnitude of the increase was very large. The increase occurred with appreciable magnitude at Resolute. Copy seen: DLC.

ROSE, JOHN CREIGHTON, 1922see Woollard, G. P., and others. The establishment . . . international gravity standard. 1956. No. 49007.

47662. ROSEBERRY, CECIL R. Men against the icecap. (Saturday evening post, Apr. 7, 1956. v. 228, no. 41,

p. 38-39+, 6 col. illus., map.)

Popular account of conditions on the Greenland inland ice and of various studies carried out in the area during and after World War II. Particular attention is given to Operation Southwind, a heavy cargo-hauling mission in Oct. 1955 under Col. Page H. Slaughter, and the first attempt at continuous movement over the icecap during winter blackout. Problems of crevasse detection and bridging, navigation, and trail-marking were encountered. Freight was delivered at the inland ice location 700 miles from Thule in two months. Copy seen: DLC.

ROSÉN, G., see Arnemo, R., and Rosén, G. Fågel- . . Abisko. 1956. No. 43748.

47663. ROSÉN, P. G. Total solförmörkelse i Lappland sommaren 1896. (Svenska turistföreningen, Stockholm. Arsskrift, 1896. p. 218-26, fold. map.) Text in Swedish. Title tr.: The total solar eclipse in Lapland in the summer of

Announcement of the eclipse to occur in Aug. 1896, with the area of totality, to cross over Kebnekaise, Torneträsk, and Vadsø, mapped. Time and duration of the eclipse are noted, as are convenient routes and interesting sites for its observations, and the altitudes of high mountain peaks in the area. Copy seen: DGS.

47664. ROSENDAHL, CARL OTTO, . Studies in Chrysosplenium with special reference to the taxonomic status and distribution of C. iowense. (Rhodora, Feb. 1947. v. 49, no. 578, p. 25-36, plates 1053-54.) Pub. also as: Contrib. from the Herbarium of the University of

Minnesota, no. 3.

Contains a comparative critical study of two closely related species, C. iowense and C. tetrandrum, with a key, description, critical notes and a list of specimens. The first species is native to Victoria Island and the shore of Cairn Lake on Baffin Island; the second is reported from Swedish Lapland (67°30' N.). Two collections of Chrysosplenium from Vaygach Island and the mouth of Yenisey River, identified by Russian botanists as alternifolium, are probably "low arctic forms of C. iowense."

Copy seen: DA.

ROSENDAHL, GUNNAR P. 47665. Anl gsarbejder i Thule 1954. (Atuagagdliutit: Grønlandsposten, Mar. 8, 1956, Ukiut 96-iat, nr. 5, p. 3-6, 22, illus.) Text in Danish and Eskimo. Title tr.: Building at Thule in 1954.

Contains an account of construction work during summer 1954 at Thule (formerly Kanaq, 77°27' N. 69°11' W.) North Greenland; here in 1953 the Eskimo population was moved from old Thule, now officially called Dundas but commonly called Thule Air Base. tails of lay-out, building techniques, labor force, working hours, etc. are given. Special features in this completely modern settlement include a central heating plant (oil) and water supply, the pipes of both installations laid above ground in frostproof conduits. Copy seen: DLC.

ROSENDAHL, GUNNAR P. Vandforsyningsproblemer i Grønland. (Atuagagdliutit: Grønlandsposten, Sept. 6, 1956. Ukiut 96-iat, nr. 18, p. 8.) Text in Danish. *Title tr.:* Water-

supply problems in Greenland.

Lists various ways in which water is obtained and their disadvantages (mostly pollution). Water works in some of the larger towns are described. Problems connected with frost and the sparseness of the population are touched upon.

Copy seen: DLC.

47667. ROSENDAHL, PHILIP, 1893. Kan Grønland give frednings-regler udenfor sit søterritorium? (Atuagagdliutit: Grønlandsposten, Jan. 12, 1956. Ukiut 96-iat, nr. 1, p. 6-8, maps.) Text in Danish and Eskimo. Titte tr.: Can Greenland issue protection regulations outside her territorial waters?

Various nations' regulations on their territorial waters are reviewed in effort to develop such to protect the walrus population off Greenland. If the hunting were restricted to hunters permanently settled in Greenland, protection would be adequate. Adult walrus males in the East Greenland-Jan Mayen area (Vesterisen) should be protected after 1st June; females and young after 1st April. In the estimated population of 6,000-7,000 animals, 700-800 should be the limit caught annually.

\*\*Copy seen:\*\* DLC.

47668. ROSENDAHL, PHILIP, 1893— Regulering af ederfuglejagten? (Atuagagdliutit: Grønlandsposten, July 12, 1956. Ukiut 96-iat, nr. 14, p. 3-5.) Text in Danish and Eskimo. Title tr.: Regulation of eider hunting?

Advice of Finn Salomonsen and Christian Vibe to the Provincial Council on the protection of eider in Greenland: Only birds which fly alone or in pairs during the breeding season should be protected; and important breeding islands should be made sanctuaries. Copy seen: DLC.

47669. ROSENIUS, PAUL. Om Lapplands fågellif. (Svenska turistföreningen, Stockholm. Årsskrift, 1901, p. 297–305, 12 illus.) Text in Swedish. *Title tr.:* On Lapland's birdlife.

Few birds other than ptarmigan and grouse winter in Lapland, but game birds, song birds, and predators in large variety are there in summer. Appearance, habitat, and habits of some of them are discussed.

\*Copy seen: DGS.

47670. ROSENKRANTZ, ALFRED, 1898- . A large Velata from the Lower

Jurassic of East Greenland. (Dansk geologisk forening. Meddelelser, Jan. 1956. Bd. 13, hefte 2, p. 79–84, illus., diagr.) 4 refs.

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Only one species of the pectinid (bivalve mollusc) genus Velata has been found in the Lias of East Greenland. A systematic description of Velata hartzi n. sp. is given, based on material collected by the writer in eastern Jameson Land (70°40'-71° N. 20°-24°30' W.) in 1926-1929, and 1934. A fragment of a left valve of this species was also found among material collected by N. Hartz at Kap Stewart in 1892 during the Danish expedition to East Greenland led by C. Ryder. The species is rare in the Liassic beds of Scoresby Sund region and has been found only in eastern Jameson Land. Copy seen: DGS.

47671. ROSENKRANTZ, ALFRED, 1898- . Paul Egedes forfærdelige havdyr. (Grønland, Sept. 1956, nr. 9, p. 334-40, illus.) Text in Danish. *Title tr.:* Paul Egede's horrible sea animal.

Contains quotations from Paul and Hans Egede's descriptions of a large sea animal seen outside Godthåb (64°11' N. 51°43' W., West Greenland) in 1734 by the former. Suggestion is made that it must have been a species of baleen whale. A description is given of author's experience in 1948 with lesser rorqual, Balaenoptera rostrata.

Copy seen: DLC.

47672. ROSENTHAL, STANLEY L, and W. A. BAUM. Diurnal variation of surface pressure over the North Atlantic Ocean. (U. S. Weather Bureau. Monthly weather review, Nov. 1956. v. 84, no. 11, p. 379–87, 2 text charts, 12 tables.) 16 refs.

Data from ocean weather ships in the area 35°-66° N. 2° E.-69.6° W. for the approx. period 1948–1955 were used to determine for each month: the daily variations of mean surface pressure; the three-hour mean-pressure tendencies; and the phases and amplitudes of the first three harmonics of the daily variations. Data are given in tables and some implications of the results are discussed.

Copy seen: DGS.

47673. ROSING, JENS. Renjakt i det gamle Grønland. (Polarboken, 1956. p. 99-112, illus.) Text in Danish. *Title tr.:* Reindeer hunting in the old Greenland.

Reindeer hunting was always the preferred occupation of Greenland Eskimos. Earlier hunting sites include Narsarsuk in Upernavik, Núgssuak, Disko Bugt, Ataneq and Qavdlunaitsait near Godthåbsfjord, and Igaliko in West Greenland, also Kap Dan and Talut in East Greenland. Weapons, hunting methods and campsites are described. Take from hunts over the years is summarized: more than 460,000 head of deer were killed in the period 1838–1855 as compared to less than 120,000 in 1863–1893. Illus. by drawings of hunting techniques, weapons, etc. Copy seen: DLC.

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47674. ROSING, JENS. Spidsand (Anas acuta L.) og Sangsvane (Cygnus cygnus (L)) i Godthåbsfjord, Vestgrønland. (Dansk ornithologisk forening. Tidsskrift, Dec. 1956. Årg. 50, hefte 4, p. 337.) Text in Danish. Title tr.: Anas acuta L. and Cygnus cygnus (L.) in Godthåbsfjord, West Greenland.

A pair of mallards (A. acuta) was observed flying northward on May 21, 1955. A specimen of C. cygnus banded in Finnmark was captured on June 20, 1955.

Copy seen: DSI.

ROSING, KALE, see Denmark. Udenrigsministeriet. Greenland. 1956. No. 44601.

47675. ROSOMOFF, HUBERT L. The effects of hypothermia on the physiology of the nervous system. (Surgery, Aug. 1956. v. 40, no. 2, p. 328–36, illus., table.) 27 refs.

Account of observations on dogs made hypothermic down to about 25° C. Following changes were observed: a decrease of cerebral blood flow with a corresponding fall in brain metabolism; a compensated hypotension; a diminution of brain volume and of intracranial pressure, and a depression in electrical and reflex activity. *Copy seen:* DNLM.

47676. ROSOMOFF, HUBERT L. Hypothermia and the central nervous system. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 253–59, illus. table.)

Information is presented indicating the presence, in the brain, of circulatory control and of "a constant cerebral blood flow in the face of a fluctuating blood pressure." Brain volume, extra-cerebral space, venous and cerebrospinal fluid pressure, and infarctions in the hypo-

thermic dog were also studied. Discussed by C. McC. Brooks, q. v.

Copy seen: DLC.

47677. ROSOMOFF, HUBERT L. Some effects of hypothermia on the normal and abnormal physiology of the nervous system. Bethesda, Md., July 20, 1956. p. 565–74, illus., tables. (U. S. Naval Medical Research Institute. v. 14. Research Report. Project NM007081.30.03.) 13 refs. Also pub. in Royal Society of Medicine, London. Proceedings, 1956. v. 49, no. G, p. 358–64; illus. table.

Report on experiments with dogs made hypothermic by immersion in ice water. The following changes were observed: a decrease in the brain's blood flow with a corresponding fall in its metabolism; an induced, compensated hypotension; a decrease of brain volume; reduced intracranial pressure, and, a safety factor against interruption of vascular channels. The medical value of the findings are discussed.

Copy seen: DNLM.

47678. ROSS, HERBERT HOLDS-WORTH, 1908- The caddisfly genus Molannodes in North America. (Entomological news, Apr. 1952. v. 63, no. 4, p. 85-87, 4 illus.)

Contains a description of M. bergi n. sp., obtained June 26, 1950, at Paradise Lake, near Wasilla, Alaska by C. O. Berg.

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47679. ROSS, HERBERT HOLDS-WORTH, 1908records of North American Trichoptera.
(American Entomological Society.
Transactions, Mar.-June 1941. v. 67,
no. 1-2, p. 35-126, 13 plates.)

Contains a systematic list of more than 150 species of caddis flies, of which 83 are new, and three from Alaska: Frenesia praeteritum (Admiralty Bay), Limnephilus taronus n. sp. and Micrasema scissum (Point Barrow).

Copy seen: DLC.

47680. ROSS, J. E. R. Control surveys in Canada. (Surveying and mapping, Oct.—Dec. 1956. v. 16, no. 4, p. 432–45, 4 maps, table.) Paper presented at American Congress on Surveying and Mapping, Washington, D. C., Mar. 19–21, 1956.

An analysis is made by the Dominion Geodesist of the organizations and methods concerned with control, of both major and minor accuracy, for the purpose of constructing new maps in Canada. At the present time, photo-coverage exists for the entire country, of which about 70 percent is vertical, 25 percent is trimetrogon, and the rest is oblique photography. Maps showing basic control coverage are reproduced for each of the methods, including triangulation control, precise levelling control, shoran fixation, and astronomic fixation.

Copy seen: DLC.

ROSS, NOEL C., see Jellison, W. L., and others. An outbreak . . . schistosome dermatitis in Alaska. 1954. No. 45778.

47681. ROSSBACH, GEORGE B. Aquatic Utricularias. (Rhodora, Apr. 1939. v. 41, no. 484, p. 113-28, illus.)

Contains a key based upon leaf characters of Utricularia species in central and northeastern United States and eastern Canada; also a key to the winter buds and notes on geographical distribution and habitats. Three of the species range in the North: U. vulgaris, including var. americana, from Labrador to Alaska; U. intermedia from West Greenland south to New Jersey, and U. minor from Disko (West Greenland) and Labrador south to New England and west to Mackenzie River. Copy seen: DA.

R. S. F. S. R. PREZIDIUM VERKHOV-NOGO SOVETA. Informatsionno-statisticheskil otdel, see Administrativnoterritorial'noe delenie RSFSR na 1 fanvarfa 1955 goda. 1955. No. 43489.

ROSSITER, R. J., see Kline, D., and others. Effect . . . cold environment on labeling . . . rat liver slices. 1956. No. 46003.

ROSSITER, R. J., see also Nicholls, D., and others. Phosphorus metabolism . . . adrenal gland . . . rat . . . cold environment . . . 1956. No. 47009.

ROSSITER, R. J., see also Nicholls, D., and R. J. Rossiter. Phosphorus metabolism . . . adrenal . . . rat . . . acclimatization to cold. 1956. No. 47008.

ROSTED, A. F., see Thorshaug, K., and A. F. Rosted. Researches . . . prevalence of trichinosis . . . 1956. No. 48386.

ROSWALL, GUNNAR, see Ahlmann. H. W. Sverige nu . . . 1950. No. 43506.

ROTHMAN, STEPHEN, 1894- , see Griem, S. F., and S. Rothman. Cutaneous sensitivity . . . cold. 1956. No. 45292.

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ROTHMAN, STEPHEN, 1894also Watkins, D. H., and others. effect of somatotrophin . . . 1956. 48872.

47682. ROUKHITAINEN, M. I. Nekotorye zakonomernosti vesennego razvitifa fitoplanktona Vostochnogo Murmana, (Akademifa nauk SSSR. Doklady, July 11, 1956. t. 109, no. 1, p. 209-211, 4 illus.) Text in Russian. Title tr.: 11 refs. Some regularities in the vernal development of phytoplankton from the eastern Murman.

Deals with phytoplankton of the littoral zone of Barents Sea from Kildin Island to Cape Svyatoy Nos (20 miles). average number of plankton cells (0-25 m.) in March was 20,000/cu. m.; two collections, Apr. 12-15 and Apr. 23-27 at depth 0-50 m. were 995,500 and 18,400,000 specimens respectively in a cu. m. Fifteen species of Algae were registered in March, and 26 plankton species in April. The optimal conditions for plankton development exist in the eastern, shallow section of the Murman coast waters: coastal cold-water species begin to develop in March or April and they are followed by deep-water species. Copy seen: DLC.

47683. ROUNDEL. Inspection at Forbisher. (Roundel, June 1956. v. 8, no. 5,

p. 20, illus.)

Notes inspection by the Canadian Minister of National Defence (Mr. Campney) and U.S. Secretary of Defense (Mr. C. E. Wilson) of a group of Canadian Rangers at Frobisher Bay, Baffin Island. The Canadian Rangers are unpaid volunteers constituting a component of the Army's Reserve Militia; they are recruited from among the local inhabitants, and carry on coast watching, searches for crashed aircraft, etc. Copy seen: DLC.

47684. ROUNDEL. They took to the woods; cold-weather test at Cold Lake. (Roundel, Apr. 1956: v. 8, no. 3, p. 11-15,

Survival test conducted during a tenday winter period near a lake 25 mi. northwest of Cold Lake, Alta., by nine air crew (a six-man group and three solo) with three observers of the Royal Canadian Air Force, is described. Journal of a solo testee is included. No extreme discomfort was recorded by any of the men, although they lost an average of 11 lb. Such tests have limited application since those testing the various equipment and supplies are uninjured and free of psychological stress. *Copy seen:* DLC.

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47685. ROUNDEL. World's northernmost curling club. (Roundel, June 1956. v. 8, no. 5, p. 19.)

Contains a brief account of the RCAF curling club at Resolute Bay. The rink is situated in an unheated Quonset hut, and the season lasts about nine months.

Copy seen: DLC.

47686. ROUSSEAU, JACQUES, 1905—. L'origine et l'évolution du mot esquimau. (Cahiers des dix, 1955. no. 20, p. 179–98.) Approx. 50 refs. Text in French. Title tr.: The origin and evolution of the word eskimo.

A review of the literature, concluding that the word Esquimau is French, derived from the Montagnais estimeow or aisimeow meaning "eater of raw meat"; that the word Eskimo is a Danish, German and English version derived from the French. Name used by the Eskimos for themselves is Innuit. Eskimos and other indigenous peoples of America can be grouped under the term Amerindians, having a geographic, not anthropological, implication.

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47687. ROUSSELIÈRE, GUY MARY, Christmas igloo. (Beaver, Winter 1956. Outfit 287, p. 4–5, 5 illus., diagr.)

Contains photographs and diagram of the k'aggek or community igloo built by the Eskimos of Pelly Bay, Keewatin District (68° N. 90° W.), for the Christmas Mass and following feast and dancing. Four family-size igloos built in a circle served as base on which snow dome was raised to height of 18 ft.

Copy seen: DLC.

47688. ROUSSELIÈRE, GUY MARY. Mythical and prehistoric animals in Arviligjuarmiut folklore. (Eskimo, Dec. 1956. v. 42, p. 10–12, 3 illus.)

Description of animals based on string figures made by Eskimos of Pelly Bay, Keewatin: the "kiligvak" (mammoth); "pertorserak," an unknown deer-like animal; "hilar" resembling a musk ox, but larger, perhaps a buffalo; "nanorluk,"

a mythical, enormous white bear; "naraye," probably also mythical.

Copy seen: DLC.

ROVATI, A. L., see Venturi, V. M., and A. L. Rovati. Sul reperto ematico e midollare . . . 1956. No. 48724.

47689. ROWLAND, LEWIS PHILIP, 1925—, and M. SAMUELOFF. Some effects of local cooling on the human forearm. (Journal of physiology, Sept. 1956. v. 133, no. 3, p. 73P.) 2 refs.

Account of investigations on the blood of the arm cooled in water of 20° C. for up to 90 minutes. Blood flow, O2 utilization and CO2 production fell before there was a marked drop in deep muscle temperature and remained low while muscle temperature fell; the blood also showed a decrease in CO2-combining power and local metabolic acidosis.

Copy seen: DNLM.

ROY, CHALMER JOHN, 1907—, see Handy, R. L., and others. Application of mechanical stabilization . . . beach . . . 1956. No. 45421.

ROY, CHALMER JOHN, 1907—, see also Stump, R. W., and C. J. Roy. Geomorphic . . . silt . . . Matanuska . . . 1956. No. 48235.

ROY, CHALMER JOHN, 1907—, see also Stump, R. W., and others. Properties and geologic occurrence . . silt deposits . . Matanuska . . 1956. No. 48236.

ROY, CHALMER JOHN, 1907—, see also Stump, R. W., and others. Property studies . . . Alaskan silts . . . Matanuska . . . Big Delta . . . Fairbanks . . . 1955. No. 48237.

ROY, CHALMER JOHN, 1907—, see also Ward, I. J., and others. Mechanical stabilization... gravelly sand... Barrow... 1955. No. 48858.

47690. ROYAL CANADIAN MOUNT-ED POLICE QUARTERLY. Civis canadensis sum. (Royal Canadian Mounted Police quarterly, Oct. 1955. v. 21, no. 2, p. 104–105, illus.)

Popular note on Father Jean Marie Trebaol's receiving Canadian citizenship in 1955; he had come to Igloolik (69°24' N. 81°49' W.) on Sept. 14, 1937 and established a Roman Catholic mission. Ceremony was held at Igloolik.

Copy seen: DLC.

ROYAL METEOROLOGICAL SOCI-ETY, see Ward, W. H. Snow accumulation and ablation. 1956. No. 48859.

ROYSE, FRANK, see Landauer, J. K., and F. Royse. Energy of snow compaction and its relation to trafficability. 1956. No. 46229.

47691. ROZHDESTVENSKIĬ, I. Krupnelshafa v mire. (Sibirskie ogni, Mar.—Apr. 1956. god 35, no. 2, p. 143–46, illus.) Text in Russian. *Title tr.:* The largest in the world.

Describes Yenisey narrows (720 m.) at Shumikha and Krasnoyarsk hydro-electric station with a planned capacity of 3,200,000 kwt. to be erected at this site.

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ROZHKOVA, M. K., ed., see Basharin, G. P. Istorifa agrarnykh otnoshenii . . . xviii-seredina xix v. 1956. No. 43897.

47692. ROZOV, N. N. K voprosu o printsipakh postroenia geneticheskol klassifikafsii pochv. (Pochvovedenie, June 1956, no. 6, p. 76-81, fold. table.) Text in Russian. German summary in insert. Title tr.: On principles of establishing a genetic soil classification.

Taking into account that soil is the result of the interaction of organic matter and rocks under prevailing climatic and geomorphic conditions of an area, a scheme of genetic classification of soils is outlined and discussed. Arctic and subarctic zones of tundra, permafrost-taiga and forest-taiga are included in the scheme and their properties briefly sketched. The paper was delivered to the Conference of Pedologists at Moscow, Jan. 28–Feb. 2, 1954.

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47693. RUBANOV, V. S. Primenenie preparata TU v teplitse. (Sad i ogorod, Oct. 1956, no. 10, p. 28.) Text in Russian. *Title tr.:* Applying the preparation TU in the hothouse.

Notes results of experiments carried out since 1953 in the hot-house of coal pit no. 9 at Inta (66°05′ N. 59°59′ E.): tomato buds are treated with this preparation (foliar feeding?) which produces an optimum crop.

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47694. RUBŤSOV, IVAN ANTONO-VICH. Metody izucheniá moshek. Moskva, Izd-vo Akademii nauk SSSR, 1956. 56 p. illus. (Akademia nauk SSSR. Zoologicheskii institut. V pomoshch' rabotafushchim po zoologii v pole i v laboratorii, 4.) 81 refs. Text in Russian, Title tr.: Methods of studying gnats.

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A guide to the collection, raising and study of these cosmopolitan insects, some of which are common arctic pests. Successive chapters deal with their habitat; collection of adults; recording numbers and activity; developmental stages; raising and keeping gnats in the laboratory; dissection and making microscopic preparations; feeding, insecticides; etc.

\*\*Copy seen: DLC.\*\*

47695. RUBTSOV, IVAN ANTONO-VICH. Nasekomye dvukrylye, t. 6, vyp. 6; moshki. Sem. Simuliidae. Izd. 2. Moskva-Leningrad, Izd-vo Akad. nauk SSSR, 1956. 859 p. 424 illus. (In: Fauna SSSR. Insecta Diptera, t. 6, vyp. 6 (Nov. ser. no. 64)) ca. 500 refs. Text in Russian. Title tr.: Dipterous insects; the blackflies. Fam. Simuliidae. 2nd. ed.

Revised edition of No. 31723, with numerous additions: the number of known species in the U. S. S. R. is increased to 300 (p. 4); some 50 species from Europe and other adjacent areas which might be found in the U. S. S. R., are also included. All keys and diagnoses are revised, and special attention is given to the illustrations. The bibliography includes only a few of the most important publications from the literature listed in the first edition.

Copy seen: DLC.

RUCKER, FLORENCE P., see Gryc, G., and others. Mesozoic sequence in Colville River region . . . 1956. No. 45325.

47696. RUCKLI, ROBERT, 1906, and H. F. WINTERKORN. Discussion of "Suction forces in soils upon freezing." (American Society of Civil Engineers. Proceedings, Mar. 1955. Discussion of proceedings, separate no. 656, p. 5–9.)

"Some criticism is raised to the theoretical treatment by Jumikis (in No. 35507) of the suction force associated with the formation of ice lenses in soil, but general agreement is indicated on the physical concepts involved. Soils may, under the proper conditions, show ice segregation in spite of favorable theoretical qualities; but experience has shown that well-graded aggregates containing more than 3 percent of particles finer than 0.02 mm. do not cause frost damage to roads, even though subsoil and climatic conditions favor ice-lens formation. A

sample calculation of suction values is included, based on several simplifying assumptions."—SIPRE.

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47697. RUCKLIDGE, M. A. A glacier water-spout in Spitsbergen. (Journal of glaciology, Mar. 1956. v. 2, no. 19,

p. 637-39, diagr.) 4 refs.

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The phenomenon, which lasted only a few seconds, was observed on July 14, 1953 by members of the Oxford University Expedition to West Spitsbergen, near the foot of the Von Postbreen, Tempelfjorden, 78°20' N. 17° E. It occurred at a point where a small melt stream crossed a closed crack in the ice, developing a glacier mill at the crossing. spout repeated 6 times at exactly 10-min. intervals, probably a result of the intermittent generation of hydrostatic pressure within the glacier. The regularity of the spout suggests a syphon system as a possible cause. References to similar phenomena are given in an editorial note.—From SIPRE.

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47698. RUDBERG, STEN. Kursudalar i Norrbotten. (Geologiska föreningen, Stockholm. Förhandlingar, 1949. bd. 71, häfte 3, no. 458, p. 442–94. 8 illus., 1 diagr., 3 text maps.) 82 refs. Text in Swedish. Summary in English. Title tr.: "Kursu" valleys in Norrbotten.

The kursu (local name) is a valley which commonly has an upper, wider section in Quaternary deposits and lower, canyon-shaped section cut in bedrock. It is often disconnected by a series of intervening plunge pools, and is believed to be superposed. Neither fluvial nor glacial erosion appears to account for its origin which must be due to erosive action of water controlled by the ice during the melting process of the ice sheet in north-Scandinavia. Muddus valley Muddus National Park is one of the most picturesque of these valleys in Swedish Lapland. Copy seen: DGS.

RUDICS, I., see Harkányi, I., and others. Künstliche Hypothermie . . . 1956. No. 45441.

47699. RUDKJØBING, MOGENS. Den totale solformørkelse d. 30. juni 1954. (Naturens verden, København, 1954. årg 38, hefte 4, p. 97–101, 3 text maps.) 2 refs. Text in Danish. Title tr.: The total solar eclipse of 30 June 1954.

Includes two maps covering arctic

regions: one illustrating the degrees of totality over the Scandinavian Peninsula; the other showing the path of totality, across Labrador and southern Greenland, and the area of partial eclipse, covering the whole geographic Arctic.

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47700. RUDNYKH, V. Zimnie reisy na Sakhalin. (Morskoi flot, Jan. 1941. no. 1, p. 25–27.) Text in Russian. *Title tr.:* Winter voyages to Sakhalin.

Describes trip of a caravan of vessels, convoyed by an ice-breaker through drift and pack ice. The most difficult conditions were immediately before the opening of navigation in April and its close in October or November. Trips were made only occasionally during winter, and then with aid of the ice-breaker Dobrynta Nikitich and the experience is briefly described.

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RUECKERT, ROLAND R., see Gray, I., and others. Effect...hypothermia...isolated perfused...liver. 1956. No. 45210.

RUECKERT, ROLAND R., see also Rink, R. A., and others. The effect of hypothermia on morphine metabolism. 1956. No. 47593.

RUFFIE, JACQUES, see Bouïsset, L., and others. Action . . . hibernation . . . Trypanosoma equiperdum. 1956. No. 44105.

RUIVO, MARIO, see International Commission for NW. Atlantic Fisheries. Annual proceedings . . . 1955–56. 1956. No. 45703.

47701. RUMANTSEV, A., and V. GRI-GOR'EV. Truzhenniki tundr. (Okhota i okhotnich'e khozálstvo, Mar. 1956. no. 3, p. 16-17, illus.) Text in Russian. *Title tr.*: Toilers of the tundra.

Discusses successes and shortcomings of commercial hunting in Yakutia; lists of leading and lagging districts include areas of the Kolyma, Yana, Lena, and Vilyuy basins.

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47702. RUMANTSEV, NIKOLAI MI-KHAILOVICH. Pobeda sovetskoi armii v Zapoliar'e; desiatyi udar, 1944 god. Moskva, Voennoe izd-vo, 1955. 104 p. illus., ports., maps. Text in Russian. Title tr.: Victory of the Soviet army in the polar region; the tenth thrust, 1944.

Account of military operations in Kola Peninsula during World War II. The so-

called defensive operations of the Soviet Army and Navy in 1941 which succeeded in halting the German and Finnish onslaught are reported. The situation on the northern front in 1942-43 and its role in the war are outlined. Nine Soviet operations or "thrusts" on other fronts in 1944 are noted; the tenth, took place on the northern front, Oct. 7-25, and ended with Russian occupation of Petsamo (now Pechenga) and of the German stronghold at Kirkenes, northern Norway. operation is described in detail: deployment of German forces, their defenses, day-by-day development of the battle, with illus. and plans. Episodes showing valor of Soviet combatants and workers are reported. Natural resources of the Kola Peninsula and its industrial development in the Soviet period are stressed. Defense of the Russian North from attacks by the Vikings. Norwegians, Swedes, and in the Allied intervention are briefly outlined in introductory chapters.

Reviewed favorably by K. Belokonov in Voennyl vestnik, Jan. 1956, god 36.

no. 1, p. 90-93 (copy in DLC).

Copy seen: DLC.

47703. RUNCORN, STANLEY KEITH, 1922- Palaeomagnetic comparisons between Europe and North America. (Geological Association of Canada. Proceedings, Nov. 1956. v. 8, pt. 1, p. 77–85, 2 text charts, diagr., graph, 2 tables.) 9 refs.

"Pole positions derived from the remanent directions of magnetization from American sediments of various geological ages are in rough agreement with those derived from British rocks of the same age. Consequently there is now strong evidence of polar wandering." Comparisons between North America and Europe are considered with discussion of existing discrepancies and errors in the paleomagnetic direction. It is tentatively concluded that North America was displaced westwards relative to Europe by almost 24° in the post-Triassic, probably late Mesozoic.

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47704. RUNE, OLOF, and O. I. RØNNING. Antennaria nordhagiana nova species. (Svensk botanisk tidskrift, Apr. 12, 1956. bd. 50, häfte 1, p. 115–28, illus., 2 plates.) 13 refs.

Contains Latin and English descriptions, a table of main characters, and data on the ecology and distribution of this new herb native to Karasjok, Finnmark, northern Norway.

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47705. RUNE, OLOF, and O. I. RØNNING. Noen plantefunni Finnmark 1953. (Blyttia, 1955. bd. 13, hefte 1, p. 1-4.) 7 refs. Text in Norwegian. Summary in English. *Title tr*: Some plant finds in Finnmark in 1953.

Contains an annotated list of about 40 seed plants collected in Aug. 1953. Carex parallela was found on Magerøy (71° N.) and Braya purpurascens on Mt. Duken, Magerøy. Most of new records are in little known localities of Varanger Peninsula.

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47706. RUNE, OLOF. Operation kattfot. (På skidor. Föreningen för skidlöpningens och friluftslivets främjande i Sverige. Årsbok 1956. p. 160-71, illus.) Text in Swedish. Title tr: Operation catfoot.

Describes author's expedition to Finmark with Olaf Rønning, curator of Tromsø Museum, to find a rare (glabrous) variety of catfoot or cudweed. From Tromsø they traveled via Lakselv at the bottom of Porsanger Fjord, and Karasjok (approx. 69°30′ N. 25°30′ E.) along the Tana River on the Finnish frontier to Levajok (approx. 69°50′ N. 26°20′ E.). On the mountain Suoidnegaissa, about 30 km. west of Levajok, specimens of the plant were found.

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47707. RUNE, OLOF. Veronica tenella in Fennoscandia. (Suomalainen eläin- ja kasvitieteellinen seura Vanamo. Tiedonannot (Archivum), 1955. v. 9, suppl., p. 320–33, text map.) 29 refs.

Contains taxonomic remarks on this species, distributional notes, and ecology; the hybrid V. tenella x serpyllifolia (Lule Lappmark), is described, disjunct distribution in Fennoscandia discussed and a list of localities given, including Nordland and Tromsø (Norway), Swedish Lapland, Kuusamo and Tuloma Lapland (Kola Peninsula). Copy seen: DLC.

47708. RUNEMARK, HANS. Studies in Rhizocarpon I, taxonomy of the yellow species in Europe; II, distribution and ecology of the yellow species in Europe. Stockholm, Almqvist & Wiksell, 1956. 2 pt.: 152 p. 39 illus., 7 tables; 150 p., 47 maps. (Opera botanica a Societate botanica lundensi; in supplementum

seriei "Botaniska notiser," v. 2, no. 1–2) 187 + 35 refs.

In pt. I, a general account of this lichen genus is given: its anatomy, morphology, aromatic substances and their identification, ecology and distribution of the yellow species (containing rhizocarpic acid). A taxonomic account follows (p. 46–136) with discussion of the genus, keys and descriptions of 29 species, synonyms, Latin diagnoses of the eight new species. Illustrations, taxonomic remarks, variability, also data on lichen substances, ecology, and distribution are given for each species.

Pt. II is devoted to the distribution, habitat and ecology of the species in Europe; the influence of edaphic, climatic and competitive factors is discussed. The yellow R. species are saxicolous and mainly bound to siliceous rocks in dry localities exposed to sunlight; many species are very weak in competition. Total and European distribution of R. are tabulated, with respectively, 14 and 13 species in the Arctic. For each species, the distribution and ecology are considered (maps), localities listed by country.

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47709. RUONG, ISRAEL, 1903—. Fjällapparna i Jukkasjärvi socken. Uppsala, Appelberg, 1937. 76 p. 8 diagrs., 14 illus., 6 maps incl. 1 fold, 5 tables. (Geographica, no. 3.) 76 refs. Text in Swedish. Summary in German. *Title tr.:* Mountain Lapps in Jukkasjärvi parish.

The life of reindeer Lapps in Sweden's northernmost parish is considered from the 16th century, as it has been affected by the topography, geology, vegetation, and climate. The influence is discussed of the increased sedentary population, of modern communications, of the penetration of a money economy, and of tourism. Swedish, Norwegian, and Russian governmental decisions have protected Lapp rights in modified forms that restrict their privileges but on the whole ensure continuation of their way of life. Effects of these changes on size and make-up of herds and on methods of supervision are traced and explained. Only on the Kola Peninsula and in the Petsamo region has the earlier form of nomadism continued wherein a few domesticated reindeer are owned and hunting of wild reindeer is still practiced. The modern trend in family life is for most of the family members to remain throughout the summer at

the customary spring and fall campsites, where firewood and fish are available. Only those actively engaged in supervision of herds go to the uplands. Dwellings have been modified as a result, and more substantial quarters, often of sawn lumber, are erected at these main sites. Summer housing on the uplands may be portable or permanent. Typical Lappish structures are illustrated and described. Lapp terminology is interpreted.

Copy seen: DGS.

47710. RUONG, ISRAEL, 1903—. Nomadskolorna i Sverige. (Sameliv. Samisk selskaps årbok 1951—1952. p. 14–27, illus.) Text in Swedish. *Title tr.*: Nomad schools in Sweden.

Education was started among Swedish Lapps in the 17th century by missionaries; its subsequent organization is reviewed and an account given of the present-day system. During some periods the emphasis has been on ambulating schools, during others on stationary schools, the latter at present. Ten stationary boarding-schools are in operation with some 400 pupils who attend for about 35 weeks annually during six or seven years. The syllabus is similar to that of other elementary schools but with teaching of reindeer husbandry and matters connected with Lapp civilization.

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47711. RUONG, ISRAEL, 1903—. Nordisk samekonferens i Karasjok. (Samefolkets egen tidning, Sept. 1956. Årg 38, no. 3, p. 4–5.) Text in Swedish. *Title tr.*: Scandinavian Lapp conference at Karasjok.

Contains an account of the second inter-Scandinavian Lapp conference, held in Karasjok, Finmark, Norway, in 1956. School and education problems, natural resources in the Lapp areas, Lapp representation in central and local government, tourism, etc., were discussed. It was resolved to form a permanent Scandinavian Lapp council (Nordiska samerådet).

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RUSS, CLEM, see Fedor, E. J., and others. The effect of prolonged hypothermia . . . 1956. No. 44864.

RUSS, CLEM, see Fisher, B., and others. Some physiologic effects . . . hypothermia . . . liver. 1956. No. 44906.

47712. RUSS, J. R. Problems in muskeg accessibility. (In: National Research Council of Canada. Associate Committee on Soil and Snow Mechanics. Proceedings of the Eastern Muskeg Research Meeting, February 22, 1956. Ottawa, Oct. 1956. Technical memorandum, no.

42, p. 55-57.)

In Sept. 1955, the Muskeg Tractor Model M5 (Bombardier Snowmobile Ltd.) and the North King Universal Transporter were tested for work in the northern Manitoba muskeg region extending from Gilliam on the Hudson Bay Railway (56°21' N. 94°43' W.) east to Hudson Bay. The first machine proved superior; it is a low-slung, wide-based tractor with extra-wide tracks giving ground pressure of 3/4 lb./sq. in. Payload is one ton for the tractor and one and onehalf tons for the trailer. The region is described, also process of choosing a route, provision of corduroy support, winter travel. Copy seen: DGS.

47713. RUSSELL, GEORGE A. A geological reconnaissance of the Wolverine and Caribou Rivers, Cross Lake mining division, northern Manitoba. Winnipeg, Queen's Printer, 1953. 10 p. fold. map 48 x 28 in., table. (Manitoba. Dept. of Mines and Natural Resources. Mines Branch. Publication 52–2.) 2 refs.

Map (scale 1 in.: 4 mi.) covers area immediately bordering the two rivers, 59°-60° N. 94°-99° W., along the west coast of Hudson Bay. Wolverine River is a tributary of Seal River. Physical geography is described. Bedrock outcrops are rare due to glacial drift cover. Consolidated rocks are Precambrian, the oldest being metamorphosed sediments. few areas of rocks varying from diorite to amphibolite occur. Most of the region is underlain by a granitic complex. Pleistocene glacial deposits are briefly discussed; also structure. Ore minerals were seen, but nowhere in abundance. Scarcity of bedrock outcrops would make prospecting expensive. Copy seen: DGS.

47714. RUSSELL, ISRAEL COOK, 1852-1906. Glaciers of North America; a reading lesson for students of geography and geology. Boston, Ginn & Co., 1897.

210 p. illus., text maps, diagrs.

Includes (p. 74-145) description of glaciers of Alaska and northwest Greenland - Ellesmere Island. Alaska glaciers include Taku, Muir, Turner, Hubbard, Nunatak, Seward; glaciers of Lynn Canal, interior Alaska, Alaska Peninsula, and Aleutian Islands (briefly); Malaspina Glacier (in detail); ground ice is described.

Glaciers of Grinnell Land, Ellesmere, and of northwest Greenland are briefly discussed on the basis of expeditionary reports. Other chapters deal with general characteristics of glaciers, relation of climate and local factors to glacial behavior, theories of glacier mechanics, and the life cycle of a typical glacier.

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RUSSELL, R. D., see Wilson, J. T., and others. Economic significance . . . basement subdivision and structures in Canada. 1956. No. 48980.

RUSSELL, R. W., see Andjus, R. K., and others. Effects of hypothermia on behaviour. 1955. No. 43642.

RUSSUM, BENJAMIN CARL, 1892-, see Samaras, S. C., and others. Anoxia... refrigeration, pregnancy . . . 1956. No. 47774.

RUTKOVSKIĬ, V. I., see Akademiiā nauk SSSR. Institut geografii. Sneg i talye vody. 1956. No. 43523.

47715. RUTLAND, R. W. R. Structure, metamorphism and granite emplacement in the Sokumvatn area, northern Norway. (Geological Society of London. Proceedings, Session 1955—

1956. No. 1540, p. 109-110.)
Abstract of lecture delivered to the Society May 16, 1956. Area lies in the Caledonian orogenic belt, west of the main thrust zone (66°55′ N. 14°15′ E). General structure is that of a synform, on a N-S axis, with steep eastern and gentle western limb. The two main rock groups are a central gneissic group surrounded by a metasedimentary group. Origin of these rocks and structure of the area are discussed. Two main periods of folding occurred, both during the Caledonian orogeny.

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47716. RUTLEDGE, F. A., and others. Preliminary report: nonmetallic deposits accessible to the Alaska Railroad as possible sources of raw materials for the construction industry. Washington, D. C., Mar. 1953. 129 p. illus., diagrs., sections, 52 tables. (U. S. Bureau of Mines. Report of investigations 4932.) 48 refs. Other authors: R. L. Thorne, W. H. Kerns, and J. J. Mulligan.

Probable markets (military, governmental, civilian) for construction materials in the Alaskan Railroad belt are considered as a prerequisite for any

development program for a building materials industry. Accessibility, physical features, climate, history and production, and general geology of the region are briefly described. Then follows discussion of the types of building materials: brick and clay products, lightweight aggregate, pozzolan, mineral wood, cement, aggregates. Properties and uses of each are noted; also location and description of, and tests made on, the nonmetallic deposits investigated under each of these categories.

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RUTLEDGE, F. A., see also Jermain, G. D., and F. A. Rutledge. Diamond drilling the Gypsum . . . Iyoukeen Cove . . . 1952. No. 45791.

47717. RUTSHTEĬN, S. M. Geologicheskoe stroenie i orudenenie dlfa trekh osnovnykh massivov Moncha-tundry. (In: Khibinskie apatity, 1933. t. 6, p. 168–75, tables.) Text in Russian. Title tr.: Geological structure and mineralization in the three principal massifs of the Moncha Tundra.

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s e e Describes activities of the exploration party of the Southwestern Geological Prospecting Trust (S. Z. G. R. T.) in the southern part of the Moncha Tundra. They carried out geological and topographic surveys, various types of geodetic investigations, and mining work. Results of the party's geological exploration are described with structural characteristics and chemical analysis of basic intrusions in each area. Deposits of industrial importance were found in the Sopchuayvench terrace and Nyuduayvench.

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47718. RUTTER, FRANK. Transair looks to scheduled services. (Canadian aviation, June 1956. v. 29, no. 6, p. 66-67, illus.)

Plans are annnounced for a merger between Central Northern Airways of Winnipeg and Arctic Wings of Ottawa and Churchill into Transair Ltd. The new company, with 38 aircraft, does freight hauling primarily, with some passenger and mail work. It plans a transpolar freight service between Canada and Europe, and scheduled prairie air services. Its expansion involves construction of landing strips in strategic northern points. Its present equipment and facilities are specified.

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47719. RUTTNER-KOLISKO, AGNES. Einige Beispiele für die unmittelbare Auswirkung des Wetters auf die Lebensbedingungen im feuchten Sand. (Wetter und Leben, 1955. Bd. 7, Heft 1/2, p. 16–22, illus., tables.) 6 refs. Text in German. Title tr.: Some instances of the direct effect of weather on living conditions in moist sand.

Account of investigations at various latitudes, including such at Torneträsk (68° N.), Swedish Lapland. The effects of solar irradiation on the temperature of the sand and the influence of rain and floods on the chemical conditions and on distribution of the organisms in the sand were studied. Rotatoria and their numbers were used for biological evaluation.

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47720. RUUD, JOHN TIDEMAND. The blue whale. (Scientific American, Dec. 1956. v. 195, no. 6, p. 46-50, 4 illus., text map, graph.)

Description of Sibbaldus musculus (European name Balaenoptera musculus): its physical appearance, great size and weight; the calf, migration, life history; also whaling and recent efforts at conservation in arctic and antarctic waters.

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47721. RYBNOE KHOZIAISTVO. Uluchshit' rabotu rybnoI promyshlennosti Dal'nego Vostoka. (Rybnoe khoziaistvo, May 1956. god 32, no. 5, p. 1-5.) Text in Russian. Title tr.: Improve the work of the fishing industry of the Far East.

Aims for the sixth five-year plan (1956–1960) with respect to Soviet fisheries in general and those of the Bering, Okhotsk and Japan Seas in particular are outlined. Present catches, goals for 1960 and yields of the previous five-year period are reviewed. Species to be exploited, exploratory and organization activities, technological problems, canning and preservation, etc., are considered for the coming five years.

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47722. RYDÉN, NILS. Zur Kenntnis schwedischer Minierer, XVIII. (Opuscula entomologica, 1956. bd. 21, häfte 2–3, p. 191–200, 3 illus.) Text in German. *Title tr.:* Contribution to knowledge of Swedish leaf miners, XVIII.

Includes a simple list with localities of about 70 species and forms collected in Norrbotten (Pajala) and in Torne and Lycksele Lappmark, of which 33 are

new to the fauna of the region; keys are added and five new species described. Some earlier parts of this series were listed as No. 25738-25740 of Arctic Bibliography. Those not listed do not contain arctic material.

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47723. RYTKHĖU, TŪRII. Posledniaia iaranga. (Krest'ianka, Jan. 1956. god 34, no. 1, p. 18–21, illus.) Text in Russian. *Title tr.:* The last yaranga.

Story about a Chukchi woman, who refused to leave her old yaranga (Chukchi tent), the last one remaining in a kolkhoz on Chukotka, and to move to the new house of her son, the school teacher. Translated from the Chukchi language by A. Smolân.

\*\*Copy seen: DLC.\*\*

RYTTINGER, L., see Allison, A. C., and others. The blood groups . . . Swedish Lapps. 1956. No. 43595.

47724, RYZHIKOV, K. M., and others. Biologicheskii fsikl protostrongilfûsov zaffsa-belfâka v uslovifâkh ÎAkutii. (Moskva. Moskovskii gosudarstvennyi pedagogicheskii institut im. V. I. Lenina. Uchenye zapiski, 1956. t. 96, vyp. 6, p. 137–45, illus.) 5 refs. Text in Russian. Other authors: N. M. Gubanov and K. P. Fedorov. Title tr.: Biological cycle of the Protostrongylides of the snowshoe hare under conditions of Yakutia.

Two species of this roundworm are dealt with: Protostrongylus kamenskyi Schulz 1930 and P. terminalis, Kamenskyi 1905. Post-embryonic development, intermediary hosts (snails), ways of infection of rabbits, experimental infection of intermediary and definite host and development in the molluscs, were studied.

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47725. RYZHIKOV, K. M., and others. K biologii Mosgovoyia pectinata, tsestody zaftsa. (Moskva. Moskovskii gosudarstvennyi pedagogicheskii institut im. V. I. Lenina. Uchenye zapiski, 1956. t. 96, vyp. 6, p. 147-50, illus.) Ref. Text in Russian. Other authors: N. M. Gubanov and K. P. Fedorov. Title tr.: To the biology of Mosgovoyia pectinata, a tapeworm of the hare.

Information is presented on the incidence and taxonomy of this worm parasitising in its mature stage the intestine of foxes. This is followed by account of experiments indicating the tick *Ceratopia bipilis* as intermediary host where larval development takes place.

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47726. RYZHIKOV, K. M., and others. Rashifrovka biologicheskogo sikla protostrongilnisov zaltsa-belnaka. (Akademinanuk SSSR. Doklady, May 1, 1956. t. 108, no. 1, p. 166–68.) 4 refs. Text in Russian. Other authors: N. M. Gubanov and K. P. Fedorov. Title tr.: An interpretation of the biological cycle of Protostrongylus in Lepus variabilis.

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Contains results of a study of white hare infection by nematodes of the genus Protostrongylus carried out in Yakutia, summer 1955. These parasites develop in the respiratory system of the hare and their larvae are dispelled with excrement. Two species of terrestrial molluses, Vallonia tenuilabris, and Pupilla muscorum, which are eaten by the hares were found to be infected by larvae of Protostongylus kamenskyi and P. terminalis. Hence they serve as intermediary hosts in the local biological cycle of this parasite.

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47727. RYZHIKOV, K. M. Syngamus citelli nov. sp. ot suslika iz lAkutii. (Akademifà nauk SSSR. Gel'mintologicheskafà laboratorifà. Trudy, 1956. t. 8, p. 140–43, 2 illus.) 2 refs. Text il Russian. Title tr.: Syngamus citelli n. sp. from a marmot in Yakutia.

Contains a description and measurement of this new nematode species, obtained in summer 1954 in the Lena River basin, 200 km. north of Yakutsk. Copy seen: DLC.

RYZHIKOV, K. M., see also Mozgovol, A. A., and others. Rabota . . . èkspeditsii 1953 . . . 1956. No. 46879.

47728. S., N. A. Genom Lule Lappmark till Ofoten. (Svenska turistföreningen, Stockholm. Årsskrift, 1895, p. 209–229.) Text in Swedish. *Title tr.:* Through Lule Lappmark to Ofoten.

Landscape, people, and conditions of the journey are described from Gällivare to the headwater lakes of the Kalix River,

the latter part in brief.

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47729. S., W. R. Snow loads on roofs. (Building research in Canada, Dec. 31,

1956. v. 2, no. 4, p. 120-21.)

Announces initiation of a pilot survey during the winter of 1956-57 in representative areas of Canada for the primary purpose of comparing maximum snow load on the ground with actual snow loads on various types of roofs. Present plans call for eight survey sites, including

Churchill. Currently-used design data are based on snow measurements made on the ground. The new survey can be expected to yield more reliable design criteria.

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47730. S–S. Tygpråmen "Wuosma". (Svenska turistföreningen, Stockholm. Årsskrift, 1894, p. 175–80, illus., 5 diagrs.) Text in Swedish. *Title tr.:* The canvas boat *Wuosma*.

Difficulty of crossing waterways in Lapland where boats are not at hand led to development of a rectangular, flat-bottomed canvas-covered craft which could be disjoined, rolled, and carried. Illus. and measurements are provided.

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47731. SAALAS, UUNIO, 1882– . Ein gynandromorphes Exemplar von *Ips acuminatus* Gyll.; Col., Scolytidae. (Suomen hyönteistieteellinen aikakauskirja, 1938. v. 4, no. 2, p. 119–20, illus.) Text in German. *Title tr.:* A gynandromorphous specimen of *Ips acuminatus* Gyll.; Col., Scolytidae.

Contains a description and illustration of this abnormal specimen of a bark beetle found in Utsjoki, in Inari Lappmark, in July 1922. Copy seen: DLC.

47732. SAALAS, UUNIO, 1882— Mitteilungen über einige finnische Epuraea-Arten; Col., Nitidulidae. (Suomen hyönteistieteellinen aikakauskirja, 1939. v. 5, no. 2, p. 169–70.) Text in German. Title tr.: Notes on some Finnish species of Epuraea; Col., Nitidulidae.

Contains an annotated list of five species, among them, E. interjecta, occurring in Kemi and Inari Lappmark.

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47733. SAALAS, UUNIO, 1882- . Professori K. J. Valle 60-vuotias. (Suomen hyönteistieteellinen aikakauskirja, 1947. v. 13, no. 3, p. 75–78, port.) Text in Finnish. Summary in German. *Title tr.:* Prof. K. J. Valle, 60 years.

Tribute to this professor of zoology at the University of Turku, noted for his research in entomology (particularly butterflies of the Petsamo region), ichthyology, ornithology and botany, with outline of his scientific activities.

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47734. SAALAS, UUNIO, 1882– . Suomen hyönteistieteilijöiden ulkomaille suorittamista tutkimus- ja opintomatkoista. (Suomen hyönteistieteellinen aikakauskirja, 1943. v. 9, no. 1, p. 37–48.) Text in Finnish. Summary in German. *Title tr.:* On the travels of Finnish entomologists abroad for exploration and scientific work.

An historical study which includes B. R. Poppius' collecting trips to Kanin Peninsula in 1903 and the Lena River basin in 1901, R. F. Sahlberg's travels in 1839-45 when he visited Sitka and the Okhotsk Seacoast, J. R. Sahlberg's investigation of the lower Ob' and Yenisey Rivers in 1876, and E. E. Bergroth in western Siberia in 1877; Y. Vuorentaus collected on the Yenisey River in 1915, and in Kamchatka (with Löfgren) in 1917.

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SAALAS, UUNIO, 1882-47735. Tetropium aquilonium Plavilstschikov, ein im Staatsgebiet Finnlands bisher unbekannter Bockkäfer (Col. Cerambycidae) in Enontekiö gefunden. (Suomen hyönteistieteellinen aikakauskirja, 1945. v. 11, no. 2, p. 147-49.) 3 refs. Text Title tr.: Tetropium aquiin German. lonium Plavilshchikov (Col., Cerambycidae), a species hitherto unknown in Finland, is found in the Enontekiö region.

A cerambycid found in 1913 in Fjeldes Palastunturi, in the Enontekiö region of Finnish Lapland, under the bark of a dry pine, was described by the writer in 1923 (No. 25751 of Arctic Bibliography) as Tetropium fuscum. It is suggested now that this doubtful species is T. aquilonium described by Plavil'shchikov in 1940 (No. 31332). Both species are discussed and compared.

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47736. SAARINEN, ARVI ALEK-SANDER, 1906–1950. Drei neue paläarktische *Trichiosoma*-Arten; Hym., Symphyta. (Suomen hyönteistieteellinen aikakauskirja, 1950. v. 16, no. 1, p. 1–13, 12 illus.) 5 refs. Text in German. *Title tr.:* Three new palaearctic species of *Trichiosoma*; Hym., Symphyta.

Includes: T. relictum n. sp. (Turukhansk, Siberia) and T. malaisei n. sp. (Kilpisjärvi, Enontekiö, Finnish Lapland). Copy seen: DLC.

47737. SAARINEN, ARVI ALEK-SANDER, 1906–1950. Eine neue hochnordische Blattwespe, Amauronematus nuorbinjargi n. sp. (Hym. Symphyta) aus Finnisch-Lappland. Vorläufige Mitteilung zu meinen Untersuchungen in der Amauronematus fallaz-histrio Lep.-Gruppe. (Suomen hyönteistieteellinen aika-

kauskirja, 1949. v. 15, no. 2, p. 55-62, 5 illus.) Text in German. *Title tr.:* A new high-northern sawfly, *Amauronematus nuorbinjargi* n. sp. (Hym., Symphyta) from Finnish Lapland. A preliminary communication on my investigations into the *Amauronematus fallaxhistrio* Lep. group.

Contains a full description of this new sawfly collected in June 1947 in Nuorbinjarg, Utsjoki parish in the Inari region of Finnish Lapland (ca. 68°45′ N.) and known also from Karasjok in Finmark, Norway. Copy seen: DLC.

47738. SAARINEN, ARVI ALEK-SANDER, 1906–1950. Sechs neue Arten aus der Artengruppe Amauronematus fallax Lep.; Hym., Symphyta. (Suomen hyönteistieteellinen aikakauskirja, 1950. v. 16, no. 2, p. 44–63, 24 illus.) 14 refs. Text in German. Title tr.: Six new species from the group Amauronematus fallax Lep.; Hym., Symphyta.

Includes descriptions of A. glacialis, A. amicula, A. subnitens and A. septentrionalis n. spp., all from Utsjoki, Outakoski, in the Inari region of Finnish Lapland.

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47739. SAARINEN, ARVI ALEK-SANDER, 1906–1950. Studien über die Amauronematus longiserra Ths. Gruppe; Hym., Tenthredinidae. (Suomen hyönteistieteellinen aikakauskirja, 1948. v. 14, no. 3–4, p. 59–85, 32 illus., 5 text maps.) 18 refs. Text in German. Title tr.: Studies of Amauronematus longiserra Ths. group.; Hym., Tenthredinidae.

This genus of typical sawflies and the group are discussed; a key and an annotated list of six species are given. A. eiteli n. sp. occurring in Petsamo Lapland, also A. intermedius, A. spiniserra, and A. longicauda, native to northern Scandinavia and Kola Peninsula, are included. A. intermedius is reported from Nizhne-Kamehatsk, Kamehatka Peninsula.

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47740. SABLE, EDWARD G. New and redefined Cretaceous formations in western part of northern Alaska. (American Association of Petroleum Geologists. Bulletin, Nov. 1956. v. 40, no. 11, p. 2635-43, 2 text maps.) 7 refs.

The Nanushuk group is redefined in the Utukok-Corwin area (approx. 68°45′-70° N. 160°-165°30′ W.) including basins of Kokolik, Kukpowruk and Pitmegea Rivers, where the group consists of two formations, the Kukpowruk (new), and

the Corwin (redefined). The dominantly marine Kukpowruk formation consists largely of shale, siltstone, and sandstone; it overlies and intertongues with the upper part of the Torok formation. The Corwin formation is dominantly nonmarine, and consists largely of shale. siltstone, sandstone, conglomerate, and coal; it overlies and intertongues with the upper part of the Kukpowruk formation, and is overlain by the Prince Creek formation of the Colville group. Nomenclature of the Nanushuk group in the Colville River region in the eastern part of northern Alaska is discussed by G. Gryc and others, q. v.

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SABO, E. D., see Akademiîa nauk SSSR. Institut geografii. Sneg i talye vody. 1956. No. 43523.

47741. SABROSKY, CURTIS WILLIAMS, 1910- . A synopsis of the nearctic species of Elachiptera and related genera. Diptera, Chloropidae. (Washington Academy of Sciences. Journal, Nov. 15, 1948. v. 38, no. 11, p. 365–82, 14 illus.)

Contains a key to the species, a discussion of the genus and descriptions of 25 species, 11 new. Eribolus sudeticus from Northwest Territories and Alaska (Fairbanks, Matanuska, Healy) and E. nearcticus n. sp. collected at Fairbanks, are included. Copy seen: DLC.

SACCON, CARLO, see Filippi, P., and C. Saccon. L'intossicazione novocainica nell' animale . . . ipotermia . . . 1955. No. 44892.

SACCON, CARLO, see also Filippi, P., and others. Studio sperimentale . . . cuore . . intossicazione novocainica nell' animale . . ipotermia. 1955. No. 44893.

SACCON, CARLO, see also Rivano, R., and others. L'attività procainesterasica . . . nell' animale ipotermia. 1955. No. 47606.

47742. SADCHIKOVA, E. I., and K. F. TRUTNEVA. Gidro-geologicheskie raboty v rafone g. Khibinogorska. (In: Khibinskie apatity, 1933. t. 6, p. 237–41, illus., sketch map.) Text in Russian. Title tr.: Hydrogeological work in the region of Khibinogorsk.

A hydro-geological study of the Lake Bol'shoy Vud"yavr basin and slopes of the Aykuayventchorr is described with sample cross-section of a drill hole (fig. 1). New water supply for the city of Khibinogorsk (Kirovsk) was required. Hydrology of the system of small rivers, brooks, springs and lakes is analyzed. Run-off and chemical composition of the water are noted.

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47743. SADOVNICHII, V. V. Zagotovka torfa skreperom tipa zemleroIno-transportnykh skreperov. (Akademiâ navuk BSSR, *Minsk*. Instytut torfa. Trudy, 1956. t. 5, p. 77–84, illus., tables, diagr., graph.) Text in Russian. *Title tr.:* Preparation of peat with scrapers of the excavating and transporting type.

Scrapers D-222 and DTK-1 and their operation are described in detail with technical specifications. Performance results are tabulated for different transport distances.

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SADOVNIKOV, I. F., see Sobolev, S. S., and I. F. Sadovnikov. Bor'ba s . . . èrozieĭ . . . 1956. No. 48099.

47744. SAEMUND, G. Svenskt vårbruk, några resebilder. (Svenska turistföreningen, Stockholm. Årsskrift, 1952. p. 94–125, 16 illus., text map.) Text in Swedish. *Title tr.:* Spring work on Swedish farms; some travel views.

Discussion of spring agricultural activities, including the Lapland practice of seeding potatoes in ridges for maximum advance of summer warmth. The only other seeded crops in Lapland are oats and six-rowed barley.

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47745. SAETERSDAL, GUNNAR SEL-MER, 1922— . Haddock, Arcto-Norwegian stock; age distribution and migration. (International Council for the Exploration of the Sea. Annales biologiques, 1954, pub. 1956. v. 11, p. 97–100, illus., tables, maps.)

Account of investigations conducted since 1950 on the Finmark coast and down to the Lofoten. Age analyses, year-class distribution and their effect on the yield are discussed. Returns from tagging activities indicate that the haddock of the Barents Sea and Svalbard areas constitute one population, the mature fish among it migrating to spawn on the Norwegian coast each spring.

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47746. SAETERSDAL, GUNNAR SEL-MER, 1922— . The haddock in Norwegian waters 1; vertebrae counts and brood strength variations of young fish. Bergen, J. Grieg, 1952. 14 p. tables, map. (Norway. Fiskeridirektoratet. Skrifter, ser. Havundersøkelser, v. 10, no. 4.) 6 refs.

Report on some investigations on young fish from northern Norway and the Barents Sea. Age groups 0-II are analyzed with respect to number of vertebrae; brood strength and growth. Distribution of eggs and larvae over the area is also studied. It is concluded from the uniformity of data that "these areas are inhabited by one main population."

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47747. SAETERSDAL, GUNNAR SEL-MER, 1922– . The haddock in Norwegian waters, 2; methods in age and growth investigation. Bergen, J. Grieg, 1953. 46 p. illus., tables (Norway. Fiskeridirektoratet. Skrifter, ser. Havundersøkelser, v. 10, no. 9.) 49 refs.

A study of scales and otoliths taken at about monthly intervals from young haddock of Brandsfjord (ca. 64° N.) as well as western and northern Norway. The growth zones of both scales and otoliths were compared with length frequency distribution and their value analyzed. A minority of scale readings were false, most probably due to lack of zone formation. Seasonal changes, growth rhythm and zone formation in scales, and otoliths are discussed in their relation and mechanisms.

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47748. SAETERSDAL, GUNNAR SEL-MER, 1922- . Temperaturen og saltholdigheten som faktorer av betydning for plante- og dyrelivet i sjøen. (Naturen, 1953. Årg. 77, nr. 6, p. 178-90. 3 illus., text-map.) Text in Norwegian. Title tr.: Temperature and salt content as factors of significance for plant and animal life in the sea.

Temperature and salinity of sea waters are probably the main variable environmental factors for most marine animals, warm- or cold-blooded, variable or invariable in their body-salt content. All have tolerance regions with maximum and minimum values of heat and salt, with probably even more restricted reproductive regions. Ranging habits and spawning grounds of cod and herring off the Murmansk and Norwegian coast are related to water temperature which affects both sexual development and feeding requirements. Even the arctic whale, a warm-blooded creature, goes to more temperate regions at calving time, presumably to spare the young the great change of temperature from the mother's body to polar water.

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47749. SAETHERSKAR, JOHANNES, Editor. Det norske naeringsliv; Finnmark fylkesleksikon. Bergen, Norske naeringsliv forlag, 1952. 697 p., illus., diagrs. ports., maps. Text in Norwegian. Title tr.: Norway's livelihood: Finn-

mark provincial lexicon.

Thirteenth in "Det norske naeringsliv" series of systematic regional reports on business life, institutions of various kinds including schools, occupational development, and future prospects. In part 1, the general survey (by Erling Bjørgan) of the topography, economy, and history of Finnmark, Norway's northernmost province, is followed by 30 short articles. They deal with fishing, mining, forestry, agriculture and animal husbandry, hydro-electric power, travel conditions and routes, trade, cooperative activities, homecrafts and large and small industries, homemaking, homesteading, health, art, architecture, museums, occupational organizations and unions, bequest funds available for charities and education, educational requirements of various trades and professions, institutions, and opportunities.

In pt. 2 (p. 225–416 and 593–632) are descriptions of individual towns and communes with appropriate subdivisions on various activities, culture, and planning. Pt. 3 (p. 417–589 and 633–70) provides, by community, short accounts of all business firms and individuals, and an index by occupations is appended, in which Hammerfest and Vardø are listed separately and all other communities combined into a general register.

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47750. SAFRONOV, FEDOT GRIGOR'-EVICH. Dekabristy v fikutskof ssylke; k 130-letifi so dnfi vosstanifi dekabristov. fikutsk, fikutskoe knizhnoe izd-vo, 1955. 82 p. port. 31 refs. Text in Russian. Title tr.: Decembrist exiles in Yakutia; the 130th anniversary of the Decembrist uprising.

Contains biographical sketches of the ten Decembrists exiled to Yakutia in 1826–27; A. A. Bestuzhev-Marlinskii, M. A. Murav'ev-Apostol, N. A. Chizhov, A. N. Andreev, Z. G. Chernyshev, N. S. Bobrishchev-Pushkin, A. V. Vedeníapin, N. F. Zaikin, S. G. Krasnokutskii, M. A. Nazimov. Their lives in Yakutia and the importance of their studies on the

customs, social conditions, religious beliefs, etc., of the Yakuts are discussed. Contemporary statistical data on housing and population are given for: Yakutsk, Vilyuysk, Olekminsk, Verkhoyansk, and Sredne-Kolymsk. Two short stories on Siberia and Siberian customs by Bestuzhev-Marlinskii and four poems on Yakutia by him and Chizhov are included.

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SAFRONOV, FEDOT GRIGOR'EVICH, see also Ionova, O. V., and F. G. Safronov. O sofsial'no-ekonomicheskikh otnoshenifakh . . . lAkutii xvii-xix vekov. 1956. No. 45714.

47751. SAHAMA, THURE GEORG, 1910- Optical anomalies in arfvedsonite from Greenland. (American mineralogist, May-June 1956. v. 41, no. 5-6, p. 509-512, 3 tables.) 7 refs.

Many alkali amphiboles fail to show complete extinction on (010) between crossed nichols, even in monochromatic light. On (100), striations parallel with the trace of the c-axis were noted. Chemical and optical analyses were made on a specimen of arfvedsonite from Kangerdluarssuk, West Greenland (61° 05' N. 46°05'-10' W.). The optical anomalies are apparently caused by some kind of mosaic structure. X-ray data indicate that the specimen represents a perthitic intergrowth of two amphibole components with slightly differing unit cell dimensions. When fragments of the crystal were heated, the optical anomalies disappeared. The crystal had become homogeneous. "It is concluded that an amphibole of the arfvedsonite composition is not stable at low temperatures but will become unmixed."

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SAHASRABUDHE, M. B., see Nerurkar, M. K., and M. B. Sahasrabudhe. Metabolism . . . hypervitaminosis A . . . rats. 1956. No. 46986,

47752. SAHLSTRÖM, KARL ESAIAS, 1884— . Jordskälv i Sverige, 1941–1950. Stockholm, P. A. Norstedt & Söner, 1953–33 p., 21 maps incl. 1 fold. (Sweden. Geologiska undersökning. Avhandlingar och uppsatser. Ser. C, no. 532. Årsbok 47 (1953) no. 3). Text in Swedish. Summary in German. Title tr: Earthquakes in Sweden, 1941–1950.

Describes 22 earthquakes, including three in northernmost Sweden rated at intensity IV on the Rossi-Forel scale. One occurred on Oct. 5, 1942 southeast of Gällivare, affecting the area approx. 66°30′-67°05′ N. 20°30′-22°30′ E. The other two, on Mar. 13, 1943 and Oct. 15, 1947, occurred in the Junosuando-Masugnsbyn region in the Torneālv basin, approx. 67°15′-30′ N. 21°45′-23° E. The 1936–1940 period was reported in No. 15182. Copy seen: DGS.

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47753. ŠAHOVIĆ, K., and others. Iskoristljivost glikoze u pojedinim organima na različitim stepenima hipotermije. (Srpska akademija nauka, Belgrad. Glas, 1956. v. 217, odeljenje medicinskih nauka, no. 10, p. 29–50, illus., tables.) 22 refs. Text in Serbo-Croatian. Summary in French. Other authors: A. Bata and P. Milutinović. Title tr: Utilization of glucose by various organs of the hypothermic animal.

Account of studies on dogs made hypothermic down to 18° C. The level of glycemia was found to be dependent on the degree and duration of cooling; the difference in glycemia between the arterial and venous femoral blood increased with the degree of hypothermia as a result of tissue hypoxia; glycogenolysis of the liver was most intense at temperatures of 26°-23° C. Finally, kidney utilization of glucose was conditioned by variation in urine secretion and by glycosuria. Copy seen: DNLM.

47754. SAILER, REECE IVAN, 1915—, and others. Notes on Culicoides in Alaska; Diptera, Heleidae. (Mosquito news, Dec. 1956. v. 16, no. 4, p. 270–78, illus.) 8 refs. Other authors: E. P. Marks and S. E. Lienk.

Contains notes on Alaskan punkies, based largely on observations of the Alaskan Insect Control Project during 1948, and those of the senior author in 1951 and 1953. The insects were studied at Anchorage, Valdez, Fairbanks and along the Alaskan Highway system. Observations include area prevalence, flight habits, landing counts, prevalence according to ecological criteria, annoyance and bites, larval habitats, species known from Alaska.

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SAILER, REECE IVAN, 1915—, see also Smith, C. N., and others. Insects affecting man and animals . . . 1954. No. 48082.

47755. SAINSBURY, CLEO L., 1921 - . Wind-induced stone tracks, Prince of Wales Island, Alaska. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 1, p. 1659-60, 3 illus.) 2 refs.

Describes tracks observed in summer 1955 in the littoral zone of the delta of Thorne River (55°40′ N. 133° W.) They are formed in water not more than six in. deep by stones dragged by attached wind-blown kelp. All tracks seen were formed on gentle seaward-facing slopes at ebb tide during strong off-shore winds. Individual grooves may be as much as one in. deep and several in. wide. In this environment they may be buried by river sediments during high water and thus preserved.

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SAINSBURY, CLEO L., 1921–, see also Byers, F. M., and C. L. Sainsbury. Tungsten . . . Hyder . . . 1956. No. 44218.

47756. SAKAI, AKIRA. The effect of temperature on the hardening of plants. (Teion kagaku, Low temperature science, Sapporo, 1956. v. 14, ser. B, p. 7-15, illus. tables.) 6 refs. Text in Japanese. Summary in English.

Effective temperatures for hardening cut-off mulberry twigs were found to lie below 10° C. Effectiveness of hardening increases with decreasing temperature when length of exposure is fixed; it also increases with increase of exposure time at a given constant temperature. Intermittent exposure for 16 hours at 0° C. and eight hours at 15° C. for 20 days showed no better hardening than continuous exposure to 0° C.

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47757. SAKAI, AKIRA. The effect of temperature on the maintenance of the frost hardiness. (Teion kagaku, Low temperature science, Sapporo, 1956. v. 14, Ser. B. p. 1-6, illus., tables.) 5 refs. Text in Japanese. Summary in English.

As frost hardiness is increased by artificial or natural means, the time during which parenchyma cells of twig cortex can withstand continuous freezing, becomes longer. At a continuous temperature of  $-10^{\circ}$  C., the twigs of mulberry trees and poplars survived 30 and 80 days respectively. Twigs withstood freezing longest at a temperature of  $-5^{\circ}$  C. hence storage at that temperature is most effective. **Copy seen:** DLC.

47758. SAKAI, AKIRA. Survival of plant tissue at super-low temperatures. (Teion kagaku, Low temperature science,

Sapporo, 1956. v. 14, ser. B. p. 17-24, illus. tables.) 9 refs. Text in Japa-

nese. Summary in English.

Contains a study on the effects of dehydration of willow, poplar and mulberry twigs upon their resistance to very low temperatures. Dehydration was obtained by freezing at -10 to -30° C. and the very low temperature test by immersion in liquid N<sub>2</sub> for 10 minutes. Prefreezing at -30° gave a survival of parenchyma cells of 80-90 percent and exposure to very low temperature could be substantially extended. Pre-freezing at -10° or its omission produced no survival of parenchyma.

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SAKAUSHI, E., see Nei, T., and others. Protective . . . winter clothes . . . skin temperature . . . cold. 1956. No. 46972.

SAKURADA, K., see Nei, T., and others. Protective . . . winter clothes . . . skin temperature . . . cold. 1956. No. 46972.

47759. SAL'E, E. A. Metody geofizicheskoI razvedki na lovchorrit. (In: Khibinskie apatity, 1933. t. 6, p. 133– 35.) Text in Russian. Title tr.: Methods of geophysical prospecting for lovchorrite.

A special radiometric method is described for locating lovehorrite deposits in the Yukspor. It is based on emission of a small amount of thorium and uranium in the lovehorrite ores. Method of alpha and gamma radiation was found unsatisfactory due to the high humidity locally. A method with ionization chamber and chloro-calcium dehumidifier was found satisfactory except for some anomalies caused by sphene and loparite deposits containing uranium. Additional measurements are required in this identification.

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47760. SAL'E, E. A. Predvaritel'nye rezul'taty razvedok fsirkonievykh rud v Lovozerskikh tundrakh. (In: Khibinskie apatity, 1933. t. 6, p. 100-101.) Text in Russian. Title tr.: Preliminary results on surveys of zirconium ores in the Lovozerskaya Tundra.

Prospecting work of 1932 on eudialyte deposits is described. Concentration of deposits was located in the eudialytic-luyavritic and pegmatitic layers in the Sengischorr and Pankuruyve regions. The ore capacity is estimated about 100,000 tons and concentration 10–14

percent. Discussion followed paper by Vlodavets, q. v. Copy seen: DGS.

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SALISHCHEV, K. A., see Obruchev, S. V. Spravochnik puteshestvennika . . . 1949-50. No. 47123.

47761. SALLING, AAGE, and others. Danskbogen II, III, IV; med tegninger af Kirsten Jensenius. København, Ministeriet for Grønland, 1955, 1956. 3 v.: 34 p., 34 p., 102 p. illus. Text in Danish. Other authors: A. Jacobi and F. Gad. Title tr.: Book of Danish II, III, IV; with illustrations by Kirsten Jensenius.

Textbooks for teaching Danish in Greenlandic Elementary (Children's) Schools. Teaching methods are similar to those in Danskbogen I (No. 37204); objects, clothing, landscape features not familiar to Greenlandic children are gradually introduced; books are progressively difficult, simple stories, songs, descriptions appear in III and IV.

\*\*Copy seen: CaMAI.\*\*

47762. SALLOU, C. Les troubles de la thermorégulation chez le nourrisson. (Gazette médicale de France, July 1956. t. 63, p. 1311-14.) Text in French. Title tr.: Difficulties of thermoregulation in the infant.

Following a brief outline of thermoregulation, heat production and loss, the author deals with infantile hyperthermias and hypothermias. The latter are divided into those of central origin, of congenital failure of thermogenesis, and those due to exposure. Symptoms, prevention, ther-

apy, etc., of these forms are noted.

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47763. SALMI, MARTTI. Turpeiden hivenaineista. Helsinki, 1950. 20 p., text map, 2 tables (Finland. Geologiska kommissionen. Geotekniska meddelanden, no. 51). 11 refs. Text in Finnish. Summary in English. *Title tr.:* On trace elements in peat.

Analyses of peat samples from bogs in regions of known ore occurrences or sulphide-bearing rocks. Two are near the Tornio River in Finland and one near the Jakobsbakken copper mine near Sulitjelma, Norway. Copy seen: DGS.

47764. SALMON, J. T. Keys and bibliography to the Collembola. Wellington, N. Z., 1951–56. 2 pt.: 82 p., 35 p. (Wellington, N. Z. Victoria University College. Zoology publications, no. 8, 20.) 1216 +453 refs.

Keys to the sub-orders, families, sub-

families, tribes and genera of the order Collembola are followed by a simple list of the publications (1216). The continuation offers supplementary keys, a list of corrections and amendments to the bibliography and 453 additional references. Some of the papers listed deal with Collembola of northern regions.

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47765. SAL'NIKOV, A. I. Obogrev dizel'nogo topliva otrabotannymi gazami. (Lesna@ promyshlennost', Feb. 1956. god 34, no. 2, p. 11, diagr.) Text in Russian. *Title tr.:* Preheating of diesel fuel by exhaust gases.

Contains brief description of the arrangement of pipe connections from the engine exhaust manifold (in winches L-19 and L-20) to a space between the lower part of the fuel tank and gas-deflecting sheet, attached to the tank.

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47766. SALOHEIMO, LAURI. Om kärrhöts beskaffenhet. (Finska mosskulturföreningen, Helsingfors. Årsbok, 1925. årg. 29, häfte 2, p. 107–119, 5 tables.) Text in Swedish. *Title tr.:* On the character of hay from swamplands.

Using statistical data of 1920 for area, land use, and production, the author compares importance of hay from hard ground with that from swamplands, in its botanical composition, nutritional value, and the seasonal conditions. The discussion though general, is applicable to forage production in the arctic section of Finland as well as farther south.

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47767. SALOMONSEN, FINN, 1909—. The Greenland bird-banding system. (Arctic, 1956. v. 9, no. 4, p. 258–64, illus, text map, table.) 8 refs.

Describes program of Ministeriet for Grønland and Universitetets Zoologiske Museum, København, initiated in 1946, with note of earlier banding by Dr. Bertelsen (reported in No. 1475). Settlement and outpost managers (approx. 80) organize local banding on standard instructions in Eskimo and Danish (illus.) and forward records at end of season to the Museum. A total of 30,215 birds were ringed during 1946-1954, and 2,474 recovered, mostly shot and mostly (2,291) in Greenland. Data are tabulated for species (39), also recovery percentages for the more common forms. Migration routes disclosed are briefly discussed. An arctic tern, banded in Disko and recovered in Natal 18,000 km. distant in less than three months, is signalized as the longest flight recorded by banding. Addendum offers further recovery data (abroad) and first results from East Greenland banding initiated in 1955.

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47768. SALOMONSEN, FINN, 1909—. Studying bird stocks and migrations in Greenland. (Danish Foreign Office Journal, Aug. 1956. no. 20, p. 18–20, illus., text map, table.) Also pub. in: World science review, Dec. 1956. p. 32–35. Copy in DLC. Fuller treatment in Arctic, 1956, v. 9, no. 4, p. 258–64, 8 refs. under title: The Greenland bird-banding system.

Content similar to No. 47767, though in less detail. Copy seen: CaOGB.

47769. SALONEN, JOUKO. Lisähavaintoja Kuusamon ja Sallan vesikasvistosta. (Suomalainen eläin- ja kasvitieteellinen seura Vanamo. Tiedonannot (Archivum), 1955. v. 9. suppl., p. 333–34.) 4 refs. Text in Finnish. Summary in German. Title tr.: Further observations on the aquatic flora of Kuusamo and Salla in northern Finland.

Contains a list of eleven flowering plants and four algal species recorded in the lakes of this region.

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47770. SALONEN, JOUKO. Über das Vorkommen der Hydrophyten in den Stratiotes-Seen in Kittilä, Finnisch-Lappland; vorläufige Mitteilung. (Suomalainen eläin- ja kasvitieteellinen seura Vanamo. Tiedonannot (Archivum) v 10, no. 2, 1955, pub. 1956. p. 146-52, 2 tables.) 12 refs. Text in German. Title tr.: On the occurrence of hydrophytes in the Stratiotes lakes in Kittilä, Finnish-Lapland; preliminary report.

Botanical investigations of lakes and stream confluences in Kittilä, northern Finland, were begun in 1955. In this preliminary report, broad outlines of the problem are summarized. Size, elevation, bedrock, drainage, depth, water clarity and nutrient content are considered. The Stratiotes lakes are confined to the headwater region between the Jeesiöjoki and Ounasjoki drainage systems, where bedrock is chemically basic. Investigations at 17 stations, of more than a dozen lakes, are reported. Over 50 species of aquatic plants are dealt with and their occurrence recorded for these

waters (under study also by M. K. Kotilainen, q. v.). General trends of distribution of the hydrophytes, as well as the pH, transparency and fertility of the water are noted. *Copy seen:* DA.

SALOV, M. S., see Akademiiā nauk SSSR. Institut geografii. Sneg i talye vody. 1956. No. 43523.

47771. SALYER, J. CLARK, II. Gains and losses in the waterfowl game. (North American Wildlife Conference. 21st, New Orleans. Transactions, 1956. p. 100-112.)

Contains a discussion of the "number one problem of the North American waterfowl management:" the increasing loss in waterfowl habitats as marshes, overflow lands, etc. Conditions in northern Canada and Alaska are included. The following aspects are stressed: destruction of the habitat by agricultural reclamation, and by mosquito control measures; waterfowl losses from diseases; aid from conservation laws; bird production and inventory; productivity of marshes; state conservation and management; river basin survey.

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47772. SALZMANN, KARL H. Driftende Forschungsstationen im nördlichen Eismeer; die Driften der Polarstationen 2–5. (Kosmos, Jan. 1956. Jahrg. 52, Heft 1, p. 8–15, 8 illus., 4 text maps.) Text in German. Titte tr.: Drifting research stations in the northern Arctic Ocean; drifts of polar stations 2–5.

Contains review of the history and activities of the Soviet drifting stations North Pole 2-5, based on published reports by members of these expeditions. Maps showing Arctic Basin depth measurements of 1954 as compared with those obtained in 1948, and a map of the magnetic meridians in the central Arctic as determined in 1954 are included.

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47773. SALZMANN, KARL H. Der Kältepol ist nicht Werchojansk. (Orion, Oct. 1956. Jahrg. 11, No. 19-20, p. 786-87, maps.) Text in German. Title tr.: The cold pole is not in Verkhovansk.

Air temperature conditions at Oymyakon (63°15′ N. 143°12′ E.) are described in comparison with those of Verkhoyansk (67°33′ N. 133°33′ W.), the latter, considered the "cold pole" from 1829 (Erman's expedition, cf. No. 4661) was superseded by Oymyakon following S. V.

Obruchev's observations (cf. No. 12668, 31049). Weather conditions of the area as well as vegetation and human settlement are also discussed.

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47774. SAMARAS, STELIOS C., and others. Anoxia in relation to refrigeration, pregnancy and reticuloendothelial system. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 161.) Other authors: O. J. Klinger and B. C. Russum.

Summary of experiments with mice. Cold (7° to 10° C.) prolonged survival time of anoxic animals to two hours, four times that of controls. The pathology and pathological histology of combined anoxia and cooling are also described.

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47775. SAMEFOLKETS EGEN TIDNING. Är tiden nu inne för det svenska samefolkets utplånande som en renskötande folkgrupp? (Samefolkets egen tidning, Sept. 1954. Årg. 36, nr. 3, p. 2–3.) Text in Swedish. Title tr.: Has the time now come for the obliteration of the Swedish Lapps as a reindeer herding people?

Construction of power stations with ensuing flooding of large areas, the granting of hunting licenses to private individuals, increase of the tourist traffic, etc. constitute threats to the future of herding in north Sweden. Copy seen: SPRI.

SAMOĬLOV, P. P., see Vysotskiĭ, K. P., and others. Transport torfa. 1955. No. 48828.

47776. SAMSON, FREDERICK EUGENE, 1918— and N. DAHL. Effect of temperature upon rate of cerebral energy requirement in neonatal rats. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 161.)

Account of experiments with animals given iodoacetic acid and subjected to anoxia. The younger the animals, the longer was their survival time. Lowering the body temperature also increased the survival time.

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SAMUELOFF, M., see Rowland, L. P., and M. Samueloff. Some effects . . . cooling . . . human forearm. 1956. No. 47689.

47777. SAMYLINA, V. A. Dva novykh ginkgovykh iz zheniĭ r. Aldana. (Botanicheskiĭ zhurnal, Oct. 1956. t. 41, no. 10, p. 1525–27, illus., plate.) 4 refs. Text in Russian. *Title*  tr.: Two new species of Ginkgoaceae from lower Cretaceous sediments of the Aldan River.

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Contains descriptions of Baiera polymorpha and Ginkgodium glandulosum n. spp. found in 1954 by I. I. Tuchkov, on the left bank of the Aldan near where the Tyry flows into it.

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47778. SAMYLINA, V. A. Epidermal'noe stroenie list'ev roda Sphenobaiera.
(Akademia nauk SSSR. Doklady, Jan.
21, 1956. v. 106, no. 3, p. 537-39, 2 fig.,
plate.) 4 refs. Text in Russian. Title
tr.: Epidermal structure of the genus
Sphenobaiera leaves.

Impressions of leaves of three species of this fossil genus found in the lower Cretaceous deposits in the Aldan River valley in Yakutia, are studied: S. longifolia, S. angustiloba and S. uninerris n. sp. A new form S. ikorfatensis f. papillata from the upper Jurassic of the same region is also described.

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47779. SAMYLINA, V. A. Novye sikadofity iz mezozolskikh otlozhenil r. Aldana. (Botanicheskil zhurnal, Sept. 1956. t. 41, no. 9, p. 1334–39, 2 illus., plate.) 10 refs. Text in Russian. *Title tr.:* New Cycadophyta from the Mesozoic formations of the Aldan River.

Contains descriptions of two new fossil genera of Cycadophyta, Jacutiella and Aldania; a key to the species of J., and descriptions of J. amurensis n. comb., A. auriculata and A. vachrameevii spp. nov. Based on material collected in the summer of 1954 in lower Cretaceous deposits on the left bank of Aldan River, Yakutia.

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47780. SAMZELIUS, HUGO. På fotvandring i lappländska fjällbygden. Gellivare-Killingi- Kaalasluspa- Järnfjällen-Kurravaara-Jukkasjärvi. (Svenska turistföreningen, Stockholm. Årsskrift, 1892, p. 107–124.) Text in Swedish. *Title tr.:* On a walking trip in the Lapland mountain communes.

In June, after a cold spring, a journey was made by foot over the upland of northeastern Sweden; it was a feat of endurance because of heavy, wet, soft snow and primitive equipment. Vegetation and climate, details of landscape, and encounters with Lapps are described. A postscript was added (p. 123–24) on best methods of handling boats and

precautions for boat trips on streams in northern Sweden. Copy seen: DGS.

47781. SAMZELIUS, HUGO. Tvärs öfver finnskogen; en slädfärd på sista föret, Pajala - Tärändö - Gellivare (Svenska turistföreningen, Stockholm. Årsskrift, 1895, p. 35–45.) Text in Swedish. *Title tr.:* Across the Lapland forest; a sled journey on the latest road, Pajala - Tärändö - Gällivare.

Describes late April trip across bogland, forest, and upland. Wildlife and latewinter travel conditions are noted. Copy seen: DGS.

SANDBERG, TORSTEN, see Mellquist, C., and T. Sandberg. Odontological studies...mediaeval skulls...Sweden ...Greenland. 1939. No. 46701.

SANDBERG, ULF, see Hansson, J. E., and others. Snöskor . . . 1956. No. 45433.

47782. SANDERS, IRWIN TAYLOR, 1909-, Editor. Societies around the world, prepared at the University of Kentucky by Irwin T. Sanders, editor, Frank J. Essene [and others], a new shorter ed.; Eskimo, Navajo, Baganda, Chinese peasant, Cotton South, English Midlands. Edited in one vol. by Howard Becker. New York, Dryden Press, 1956. 811 p. illus.

Abridged edition of a two-volume work, v. 1 of which was listed as Arctic Bibliography, No. 25824. Introductions, interspersed comments, social science generalizations and conclusions are condensed, footnotes, references, etc., omitted. A half-tone relief map has been added for each society treated. Eskimos are dealt with (p. 30-141) as in No. 25824 but omitting contributions of M. Mauss, E. W. Nelson (The Kashim), and F. J. Essene. Copy seen: DLC.

SANDERS, PHYLLIS, see Lushbaugh, C. C., and others. The production of poikilothermia . . . 1956. No. 46497.

47783. SANDFORD, KENNETH STUART, 1899– . The stratigraphy and structure of the Heela Hoek formation and its relationship to a subjacent metamorphic complex in North-East Land, Spitsbergen. (Geological Society of London. Quarterly journal, 1956. v. 112, pt. 3, p. 339–62, 3 illus., 3 maps incl. 1 fold., cross-sections, tables.) 15 refs. Summary and discussion also pub.

in the Society's Proceedings, session 1955-1956, no. 1531, p. 14-17.

Stratigraphic succession of the lower part of the Hecla Hoek formation (Precambrian and Lower Paleozoic) is coordinated for the various regions of Nordaustlandet for the first time. Upper part of the formation is found only in the northwest part of the island. Geology of Prins Oscars Land (80°10' N. 22° E.) on the north coast is described and interpreted, also for the first time. Hecla Hoek sediments are in successive plunging folds which end in the east against a fracture belt (Dove Bay fault). "The structure of the metamorphic complex beneath the Hecla Hoek formation is totally at variance with that of the overlying sediments, and the Dove Bay fault cuts the complex transversely." Relationship of the Hecla Hoek with the metamorphic complex recalls features of Norwegian and British geology. Copy seen: DGS.

47784. SANDSTRÖM, JOHAN WIL-HELM, 1875–1947. The working up of sea-surface temperatures. (International Council for the Exploration of the Sea. Rapports et procès-verbaux des reunions, Feb. 1943. v. 112, p. 63–75, text charts, 4 tables.)

"Monthly average sea surface temperatures in 1° squares are given for the period 1900–1937, covering the northeast Atlantic from 33° N. to 67° N. and showing also unsmoothed isotherms, deviating greatly from the temperature distribution published previously in various atlases. The basic data were supplied from the International Hydrographical Card Index. A classification of principal squares is proposed, superior to the commonly used Marsden squares."—Meteorological abstracts & bibliography, Jan. 1956. v. 7, no. 1, p. 26. Copy seen: DLC.

47785. SANDVIK, MARTIN. Noen betraktninger omkring plantekvalitet og gjødsling i planteskolen. (Norske skogplanteskoler. Årsskrift, 1955. p. 17–25.) 22 refs. Text in Norwegian. *Title tr.:* Some reflections about plant quality and fertilization in nurseries.

Includes in discussion of frost resistance, note of the fact that nursery plants suffer fall and winter frost damage because, being better fertilized, their greater vegetative activity leaves them unprepared for cold weather. This is related to top freezing of larch on good soil in northern Troms. Copy seen: DA.

47786. SANGSTER, A. G. A new approach to sled design. (RCEME quarterly, Jan. 1953. v. 5, no. 1, p. 14-17, illus., diagrs.) Similar in content to No. 31783, 37219.

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Contains a description of a cargo sled designed by the Canadian Army. The final prototype weighs 1364 lb. with a rated payload of 2 tons. Light alloys are used for load-carrying members. All four runners turn as the drawbar is varied. The action of the suspension and floating runner provides an unusually smooth, level ride.

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47787. SAN'KO, GALINA. Pushki s korablía Beringa. (Ogoněk, Aug. 1956. god 34, no. 32, p. 30, illus.) Text in Russian. *Title tr.:* Guns from Bering's ship.

On a trip to Bering Island in 1936, the writer, a journalist-photographer, found 13 old guns buried near Bering's grave. Two of them were presented to the Danish nation on a recent visit of the Soviet Navy in Denmark. Copy seen: DLC.

47788. SAPARINA, E. Puteshestvie polûsa. (Vokrug sveta, Jan. 1956, no. 1, p. 6–14, illus.) Text in Russian. *Title tr.:* Journey of the Pole.

Popular outline and explanation of nutations of the earth's axis and variations of latitude. A. \(\bar{\Omega}\). Orlov's discovery of an annual 12.5 cm. movement of the North Pole toward the 69° W. meridian is not yet explained; planned studies of these problems during the IGY., 1957-58, are mentioned. Copy seen: DLC.

SAPIN-JALOUSTRE, H., see Sapin-Jaloustre, J., and H. Sapin-Jaloustre. La pathologie . . . antarctique . . . 1956. No. 47792.

SAPIN-JALOUSTRE, H., see also Sapin-Jaloustre, J., and H. Sapin-Jaloustre. Le ralentissement . . . croissance des phanères dans l'Antarctique. 1966. No. 47793.

47789. SAPIN-JALOUSTRE, JEAN Enquête sur les gelures; à propos des observations de la l'e Expédition antarctique française en Terre Adélie, 1948-1951. Expéditions polaires françaises, 10. Paris, Hermann, 1956. 190 p. plates, diagrs. (Actualités scientifiques et industrielles, 1248.) About 400 refs. Text in French. Summary in English. Title tr.: An investigation into frostbite; from observations of the First French Ant-

arctic Expedition to Adélie Land 1948-1951. Expéditions polaires françaises,

report no. 10.

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A study based on clinical observations made during the Expedition and on recent experimental and clinical work. The first, introductory chapter, deals with frostbite in modern wars; definitions, terminology and kinds of cold injury; frostbite proper and cold injuries without freezing: views on both types. The following sections deal with author's observations during the Expedition: effects of the environment; areas mostly affected; degrees of injury; clinical course (early period, rewarming, third period; infections; sequels); clinical forms and etiology, pathological physiology and pathogenesis theories, consecutive phases of the injury; treatment (rewarming, sympathetic intervention, vasodilators, anticoagulants, etc., surgery, treatment of sequels); prophylaxis. Copy seen: DLC.

47790. SAPIN-JALOUSTRE, JEAN and T. H. GODDARD. A French follow-up of research carried out in 1912 by Dr. A. L. MacLean of the Australasian Antarctic Expedition, 1911–1914, on the slowing down of the growth of hair and nails in Antarctica. (Medical journal of Australia, Oct. 1956. 43rd year, v. 2, no. 17, p. 639–41, illus., tables.) 9 refs.

A comparison is made of the techniques and results of Dr. MacLean's work with those of the Expéditions polaires françaises investigations in 1949–1951. Growth was mostly retarded when subjects lived outdoors and thus were exposed to low ambient temperatures. The phenomenon is explained as a result of diminished metabolism of the body surface caused by its lowered temperature.

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47791. SAPIN-JALOUSTRE, JEAN. L'identification des cétacés antarctiques à la mer. (Mammalia, Dec. 1953. t. 17, no. 4, p. 221-59, illus, tables, map.) 25 refs. Text in French. Summary in English. *Title tr.:* Identification at sea of antarctic cetaceans.

A guide based on observations during three voyages of 1948–1951. Aids include photographs, line and black-white illus. of the whales and especially those parts and signs visible from a boat (head, dorsal fins, tail, the "blow"; also behavior, typical movements, size, color, etc.). A number of dolphins is also included.

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47792. SAPIN-JALOUSTRE, JEAN, and H. SAPIN-JALOUSTRE. La pathologie en expédition polaire antarctique; à propos des observations de la 1<sup>re</sup> Expédition en Terre Adélie 1948-51. (Presse médicale, 1956. v. 64, no. 24, p. 579-82, no. 27, p. 637-40, no. 33, p. 791-94, no. 34, p. 821-23, illus. table, map.) over 50 refs. Text in French. Title tr.: Pathology during an antarctic expedition; observations during the first expedition to Terre Adélie, 1948-51.

Based on experience of the antarctic party of Paul-Émile Victor's Expeditions polaires françaises, to which the senior author was attached as medical officer. Information and data are presented on heat exchange with local environment; risks to human life, losses and causes of death during some previous expeditions; infective microorganisms observed in earlier and during this expedition, as well as digestive diseases and cases of poisoning; respiratory diseases; physical injuries; deficiency diseases (especially scurvy) and their prevention; mouth and diseases; eye troubles. thermia; frostbite, its types, pathology, clinical aspects and case histories from the Expedition's personnel; therapy. Also, "a frigore" syndromes (polyuria, nasal troubles, arthritic and muscular pains); problems of acclimatization. Each disease discussed has an outline of occurrences in previous expeditions.

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47793. SAPIN-JALOUSTRE, JEAN, and H. SAPIN-JALOUSTRE. Le ralentissement de la vitesse de croissance des phanères dans l'Antarctique. (Presse médicale, May 1956. v. 64, no. 38, p. 901–903, illus.) 10 refs. Text in French. Title tr.: Reduction in growth rate of hair and nails in the Antarctic.

Following a description of methods and earlier studies, the authors present the results of measurement of nail growth (four subjects) and facial hair growth (two subjects). The reduced growth rate observed is attributed to reduced metabolism in body areas exposed to cold.

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47794. SAPIR, EDWARD, 1884–1939. The phonetics of Haida. (International journal of American linguistics, Jan. 1923. v. 2, no. 2–3, p. 143–58.) 3 refs.

An analysis of the phonetics of the Skidegate dialect of Haida based on material collected from Peter R. Kelly, a Haida Indian, and presented as supplement to J. R. Swanton's work (cf. No. 17334). Consonants, vowels, syllables, stress and pitch are discussed.

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47795. SAPIR, EDWARD, 1884–1939. A type of Athabaskan relative. (International journal of American linguistics, Jan. 1923, v. 2, nos. 2–3, p. 136–42.) refs. in text.

Discusses the Athapaskan verb-adjective concept, the adjectival and non-adjectival relative forms of the noun, similarities of verb and noun stems, etc.

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47796. SAPOZHNIKOVA, S. A. Raboty agroklimatologicheskol ékspeditáii na Kol'skom poluostrove. (In: Khibinskie apatity, 1933. t. 6, p. 230–33, 3 illus.) Text in Russian. Title tr.: Work of the agro-climatological expedition to Kola Paniasula

Climatological data and physical geographical factors are discussed in relation to agriculture. Heat, light and humidity conditions are analyzed on the basis of data from the existing network of meteorological stations and temperature observation points. These data vary with time, geographic location and topographic position of the observation point. Characteristics of light variations are indicated by year-round actinometric observations. Agro-climatic divisions can be established for Kola Peninsula, enabling rational use of land in a given area.

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47797. SARABHAI, V., and R. P. KANE. Effects at Godhavn and lower latitudes of changes in energy and composition of solar cosmic rays. (Physical review, Aug. 1953. v. 91, no. 3, p. 688–89, graph.) 3 refs.

"Time series have been derived for changes of the amplitude and the hour of maximum of the diurnal component of the daily variation of the pressure-corrected meson intensity at Godhavn, West Greenland (69°15′ N. 53°32′ W.) from Carnegie Institution data . . . The variability at Godhavn is much greater than elsewhere. Comparison of the series at Godhavn with the corresponding series for the mean changes observed at Cheltenham, Eng. and Christchurch, N. Z., permits information to be derived concerning changes in the mean energy of cosmic-ray primaries responsible for the daily variation, and their 'stiffness' in the geomagnetic field. On the basis of an interpretation in

terms of continuous emission of cosmic rays from the sun, there is evidence for an increase in the mean energy of solar cosmic rays from 1940 to 1944. Reasons are given for believing that during 1944, the solar rays became richer in alpha particles as compared to protons."—Authors' abstract.

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47798. SARAJAS, H. S. SAMULI. Evidence for heart damage in association with systemic hypothermia in dogs. (American heart journal, Feb. 1956. v. 51, no. 2, p. 298–305, illus., table.) 15 refs.

Account of histo-pathological investigations on dogs autopsied at the onset of fatal cardiac irregularities during hypothermia, at its termination or three days to three years later. In all cases necrotic foci with occasional cellular reaction were observed.

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47799. SARGENT, FREDERICK, and others. The physiological basis for various constituents in survival rations; the efficiency of young men under conditions of moderate cold. May 1955. 706 p. in 2 v., illus., tables. (U. S. Air Force. Wright Air Development Center. Technical Report 53–484, May 1955. pt. 2, v. 2.) 83 refs. Other authors: V. W. Sargent, R. E. Johnson, and S. G. Stolpe.

Contains (in v. 1, 378 p.) a comprehensive study of survival rations in moderate cold, tested on 99 volunteer airmen, during the period Feb. 22 through Apr. 4, 1954. Numerous observations were made in two-week periods on adequate, restricted, and recovery diets (with "luxus amounts" of vitamins in all cases) in order to determine "physiological, biochemical, nutritional, and clinical judgments on the relative effects of work, water, calories and protein/carbohydrate/ fat ratio in all-purpose survival rations." Starvation and a 3,000-calorie adequate ration represented the extremes of the Twenty different nutrient combinations were evaluated with respect to body function and efficiency. Below the optimal control ration, the highest score in hard and in light work was attained by supplying unlimited water, 2,000 calories per day with a caloric distribution of 15 percent protein, 52 percent carbohydrates, and 33 percent fat. Vol. 2 (p. 379-706) contains detailed data on the study presented in tables.

Part 1 of this study deals similarly with rations under temperate conditions.

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SARGENT, FREDERICK, see also USQM Food & Container Institute. Nutrition symposium. 1954. No. 48643.

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SARGENT, VIRGINIA W., see Sargent, F., and others. The physiological basis . . . constituents in survival rations, 2; the efficiency . . moderate cold. 1955. No. 47799.

**47800. SATO, TERUO,** and **T. NAMI-KAWA.** On latitudinal distributions of diurnal and semidiurnal components of  $h'F_2$  of the ionosphere. (Journal of geomagnetism and geoelectricity, Sept. 1954. v. 6, no. 3, p. 157–59, diagrs.) Ref.

Results are given of an analysis of the phase and amplitude of the diurnal and semi-diurnal components of the minimum virtual height of the  $F_2$  region based on hourly median values obtained from 36 world-wide ionospheric stations in Dec. 1945 and 39 in June 1946. A very large diurnal component found for high latitudes is considered unreliable. Components are plotted against geographic and geomagnetic latitudes.

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47801. SATOSKAR, R. S., and J. C. TRIVEDI. The effect of intravenous digitalis on cats under hypothermia. (Archives internationales de pharmacodynamie et de thérapie, Jan. 1956. v. 104, no. 3-4, p. 417-23, illus., tables.) 14 refs.

A significantly higher dosage of intravenous digitalis was required to produce cardiac arrest in hypothermic (25–26° C.) cats than in normal controls. In the electrocardiogram, the "T" wave became isoelectric and then rose upon digitalis administration. Copy seen: DNLM.

SAUMONT, R., see Coraboeuf, É., and others. Hypothermie et rechauffement rapide . . . l'animal. 1956. No. 44461.

SAUMONT, R., see also Lainé, P., and others. Hypothermie centrale rapide . . . 1956. No. 46214.

47802. SAUNDERS, FRANCIS JOSEPH, 1911 - Survival of adrenal-ectomized mice after several types of stress and the effects of various steroids. (Endocrinology, Apr. 1956. v. 58, no. 4, p. 412–19, illus., tables.) 7 refs.

Report of an investigation on the effects of various kinds of stress, including cold, upon adrenalectomized mice. Injection of steroid in oil was found to be protective against cold shock only if administered 24–0 hours before exposure. Under these conditions acetate offered definite protection, but not the other steroids tried.

Copy seen: DLC.

SAUSHKIN, IÜ. G., see Bender, N. A. Imena russkikh liûdel na karte mira. 1948. No. 43951.

SAUSHKIN, TU. G., see also Obruchev, S. V. Spravochnik puteshestvennika . . . 1949-50. No. 47123.

47803. SAUVÉ, PIERRE. Preliminary report on De Freneuse Lake area, west half, New Quebec. Quebec, 1956. 6 p. fold. map. (Quebec, Province. Dept. of Mines. Geological Surveys Branch. Preliminary report, no. 332.) Ref.

Map (scale 1 in: 1 mi.) covers the area 58°15′-30′ N. 69°15′-30′ W., about 140 mi. northwest of Fort Chimo, southwest Ungava Bay region. Mapping was done in summer 1956. Most of the region is underlain by folded and metamorphosed sedimentary and volcanic rocks injected by numerous gabbro sills. Rocks are Precambrian and form part of the Labrador Trough. Granitic gneisses, possibly part of the crystalline basement of the trough, occupy a very small part of the area. Metamorphism increases toward the east. Structural trend is northwestsoutheast; structures are described. No mineral deposits of economic importance were found. Copy seen: DGS.

47804. SAUVÉ, PIERRE. Preliminary report on Leopard Lake area, east half, New Quebec. Quebec, 1956. 6 p. fold. map. (Quebec, Province. Dept. of Mines. Geological Surveys Branch. Preliminary report, no. 325.)

The area, 57°45′-58° N. 69°30′-45′ W. (about 55 mi. west of Fort Chimo) and immediately south of that described in No. 42281, lies in the middle part of the Labrador geosyncline and is underlain by sedimentary and basic volcanic rocks intruded by gabbro sills. The rocks have been folded along northwest-trending axes, folds generally upright, transverse faults abundant but displacement small. A few mineralized zones containing disseminated chalcopyrite and pyrrhotite were found. Erythrite or cobalt bloom was identified in one Copy seen: DGS. locality.

47805. SAVARENSKIĬ, EVGENIĬ FEDOROVICH. Izuchenie seismichnosti trudnodostupnykh oblasteľ; iz programmy Mezhdunarodnogo geofiziches-kogo goda. (Akademia nauk SSSR. Vestnik, June 1956. god 26, no. 6, p. 78-81, maps incl. 1 fold.) Ref. Text in Russian. Title tr.: Research on seismicity in inaccessible regions; from the program of the International Geophysical Year. Translated into English by E. R. Hope (5 p.) for Canadian Defence Research Board, Directorate of Scientific Information Service, T226R, Sept. 1956 (Copy at CaMAI).

Discusses studies planned for 1957-1958 by a team of seismographers in Arctic and Antarctic, headed by V. V. Belousov, corresponding member of the Academy of Sciences; new seismological stations are to be set up on Tiksi and Tikhaya Bays and at Apatity on Kola Peninsula. Proposed research is outlined on location of foci, intensity and frequency of earthquakes in inaccessible regions, including: antarctic, arctic, equatorial and tropical zones. Microseisms will be studied in connection with meteorological phenomena in oceans (typhoons, storms, cyclones, etc.); structure of the earth's crust will be studied with seismic methods. Special attention is given to seismicity of the Antarctic (little known), and the Arctic: along the active belt from Lena estuary across Laptev Sea and the Central Arctic, parallel with the Lomonosov Ridge, to Greenland and Iceland. Earthquakes in the Arctic and sub-Arctic are recorded by a chain of seismic stations in this active belt. Copy seen: DLC.

47806. SAVARENSKIĬ, EVGENIĬ FEDOROVICH. Problema fsunami. (Akademiß nauk SSSR. Sovet po setsmologii. Būlleten', 1956. no. 2, Sbornik statet po fsunami, p. 3-7.) Text in Russian. Title tr.: The problem of "tsunami."

Sudden appearances of the "tsunami" (seismic sea wave) on the shores of the Japanese Sea, including the Kamchatka-Kuril zone, are geologically explained. Their destructive effects upon harbor and river facilities and in loss of life among shore population are described. The only preventive measure is an automatic warning device, a sound signal, designed and arranged on the basis of a special hydro-acoustical study of this phenomenon.

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47807. SAVICH, LIDIA IVANOVNA, 1886– O zhiznedefatel'nosti mkhov pod snezhnym pokrovom. (BotanicheskiI zhurnal, Jan. 1956. t. 41, vyp. 1, p. 85-89, 2 illus.) 7 refs. Text in Russian. *Title tr.:* On the life activity of mosses under snow cover.

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Summarizes the observations of Soviet and foreign botanists on the biology and ecology of mosses in the winter season, B. A. Tikhomirov (q. v.) pointed out the important role of moss cover in the early development of arctic flowering plants from his observations on the Taymyr Peninsula. Mosses foster formation of coarse-grained snow and development of natural "hot houses" beneath the snow cover where the plants begin budding in the late-winter and early-spring period. Some spots covered by green grasses and small shrubs with well developed buds were found under the snow on hill slopes exposed to the sun. Of the biology of mosses in winter time very little is known Copy seen: DLC. as yet.

47808. SAVICH, VSEVOLOD PAVLOVICH, 1885—, and others. O novom antibiotike iz lishaĭnikov: natrievol soli usninovol kisloty. (Akademiíā nauk SSSR. Botanicheskii institut. Trudy, 1956, ser. 2, Sporovye rasteniíā, vyp. 11, p. 5–37, 12 illus., plate.) 62 refs. Text in Russian. Other authors: V. F. Kuprevich, M. A. Litvinov, E. N. Moiseeva, and K. A. Rassadina. Title tr.: On a new antibiotic compound from lichens: the sodium salt of usnic acid.

Following a brief review of the literature on antibacterial properties of lichens, results are reported of an investigation (1950-56) of several Russian lichens for the presence of usnic acid (table 3), the basic substance for various antibiotic preparations. The lichens studied were five species of Cladonia, Usnea (U. dasypoga), two each of Cetraria and Alectoria, Parmelia, Evernia, and Ramelina. Some species as Cetraria cucullata, C. nivalis, Alectoria ochroleuca are widely distributed in the tundra zone of the U. S. S. R., expecially in Yakutia. The antibiotic "Binan" or "Bin-7," a compound of sodium salt of usnic acid proved effective in hospital tests on open infected wounds, etc., and in treatment of tuberculosis and streptococcus infections; it is also used in maternity hospitals and clinics. Bin-7 as crystal powder or solution is simple in application; it is stable and effective at least for ten years; the raw material sources (lichens) are enormous; storage and preservation pre-Copy seen: DA. sent no problems.

47809. SAVICH, VSEVOLOD PAVLOVICH, 1885—. Pervyl medifsinskil preparat iz lishalnikov. (Akademifa nauk SSSR. Vestnik, July 1956. v. 26, no. 7, p. 45–47.) Text in Russian. *Title tr.:* The first medicinal preparation from lichens.

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A team of scientists of the Academy of Sciences' Botanical Institute succeeded in preparing a new antibiotic, called "Binan," from usnic acid, which occurs in several species of lichens.

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47810. SAVILE, DOUGLAS BARTON OSBORNE, 1909— . Known dispersal rates and migratory potentials as clues to the origin of the North American biota. (American midland naturalist, Oct. 1956. v. 56, no. 2, p. 434–53, table.) 32 refs.

A critique of A. Wolfson's interpretations of the origin of American avifauna (No. 43358) and of the continental drift theory as explaining the origin of North American biota. Migratory capacities and dispersal rates of many organisms across water and adaptability to climatic change account for much of the disjunct distribution pattern; they support the assumption on the relative permanency of position of continents, with the Bering Strait and some other shallow sea barriers intermittently connecting them.

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47811. SAVIN, A., and E. SHMAKOV. Daleko na Pivnochi. (Ukraina, Nov. 1956, no. 21 (180), p. 16, illus.) Text in Ukrainian. Title tr: Far in the North. Photograph of Murmashi sanatorium on Kola Bay near Murmansk, with brief explanatory note. Copy seen: DLC.

47812. SAVKINA, Z. P., and T. P. MESHKOVA. Opyt posadki zashchitnykh lesnykh polos i izuchenie ikh vlifanifa na mikroklimat v lesotundre. (Rastitel'nost' Krafinego Severa SSSR i ee osvoenie, 1956. vyp. 1, p. 81–92, illus., graphs., tables.) 14 refs. Text in Russian. Title tr: An experiment in shelterbelt forest planting and its influence on the microclimate in the forest-tundra.

Reports results of developing forest belts since 1950 to protect tundra vegetation at Nar'yan-Mar, Salekhard, Igarka, Berezovo, Taymyr and other stations of the Institute for Polar Agriculture. These belts now amount to 4 km. in length, and they cover approx. 20,000 sq.m. Picea obovata (2250) and Larix sibirica (1550) were mainly used, with 590

Betula verrucosa and B. tortuosa, thousand Salix viminalis and S. phylicifolia, 450 Pinus sibirica, 280 Sorbus aucuparia, 370 Alnus fruticosa, 50 Populus suaveolens, also some 200 shrubby Caragana arborescens. Larch and birch are the best species. Planting methods are briefly described. These belts are effective in mitigating the force of the wind, and for best results, should be planted at angles to the prevailing wind direction. Their effects on snow cover distribution, ground freezing and thawing, air temperature and humidity in adjacent areas are discussed. Copy seen: DLC.

47813. SAVVINA, Ū. A., and N. N. SERB-SERBINA. Vlifanie gidrokhlora-lūminatnykh soedinenil na prochnost' i dolgovechnost' fsementnogo kamnfa v betone. (Stroitel'nafa promyshlennost', Sept. 1956. god 34, no. 9, p. 31–36, illus., tables, graphs.) Text in Russian. Title tr: Influence of hydrochloraluminate compounds on the strength and durability of cement stone in concrete.

The use of calcium and sodium chlorides of high concentration in frost-resistant concrete is discussed as the formation of hydrochloraluminate compounds affect the strength and durability of the concrete. The high-chloride-content form of these compounds increases in volume during crystallization, and causes increase of internal stresses in the structure, hence lowering the strength and frost resistance of the cement stone. The kinetics of chemical and structural processes at low temperatures are analyzed. Ingredients and water must be

proportioned at temperatures to maintain

the plastic phase of the concrete suffi-

ciently long for stabilization of stresses.

The effect of these chlorides on shrinkage

of the concrete is treated by V. A.

Burenin, q. v.

Copy seen: DLC.

SAWYERS, JOHN L., see Owens, G., and others, Electroencephalographic responses . . . reduced blood flow. 1956. No. 47216.

47814. SAXOV, SVEND. Hvor gammel er jorden? (Naturens verden, København, 1954. årg. 38, hefte 1, p. 19-28.) Refs in text. Text in Danish. *Title tr:* How old is the earth?

Interest in the age of the earth, from Chaldean times, is reviewed, and the present method of age determinations by Carbon-14 method discussed. Among lead-bearing minerals studied in the

latter determination are samples from Greenland. Copy seen: DLC.

47815. SAYMAN, WILLIAM C. Platebearing study of loss of pavement supporting capacity due to frost. (National Research Council. Highway Research Board. Bulletin 111, 1955. p. 99–106,

diagrs., graphs.)

"A special frost test area constructed at Loring Air Force Base, Maine, in the fall of 1950 by the Corps of Engineers is described, and results of plate-bearing tests to measure the magnitude and duration of reduction in pavementsupporting capacity due to frost action are summarized. The test area, 30 x 40 ft., consists of four test sections with various combined thicknesses of pavement and base course constructed on a natural gravelly sandy clay subgrade. following results are reported: succeeding years of freezing and thawing decreased the normal period (fall) pavement-supporting capacity progressively during successive years; the quantitative loss of supporting capacity was the same for each test section during the frostmelting period; the duration of loss in supporting capacity was approximately 4 mo. measured by static loading and 3 mo. measured by repeated loading; and all repeating-load tests showed good agreement."-SIPRE.

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47816. SAZHIN, PETR ALEKSAN-DROVICH. Kapitan Kiribeev; povest'. (Neva, May 1956, no. 5, p. 11-77; June, 1956. no. 6, p. 9-80, illus.) Text in Russian. *Title tr.:* Captain Kiribeev; a short novel.

Describes activities and life aboard three Soviet whaling ships operating in the Bering Sea. Includes harpooning of sperm, fin and killer whales and delivery of catch to the blubber processing vessel.

Copy seen: DLC.

SCHACHTER, H., see Haist, R. E., and others. Effect . . . cold acclimatization

SCHARFF, MARGARET, see Hutchins, L. W., and M. Scharff. Maximum and minimum . . . surface temperatures . . . 1947. No. 45662.

in rats shocked . . . 1956. No. 45386.

47817. SCHATZKI, RICHARD. Roentgenologic changes in bones following cold injury in man. (*In:* Conference on Cold Injury. 4th, Nov. 7-9, 1955, Princeton, N. J. Transactions, pub. 1956, p. 37-71, illus.) 7 refs.

Account of bone changes observed in the 100 cases from the Korean War described by Dr. Blair (No. 44049): osteoporosis, deformities at the ends of toes, fingers and in the joints; pains, including rheumatism, gout, etc.; periosteal bone formation; cortical defects, etc.

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47818. SCHATZKI, RICHARD. Roentgenologic changes in frostbitten rabbits. (In: Conference on Cold Injury. 4th, Nov. 7-9, 1955, Princeton, N. J. Transactions, pub. 1956, p. 85-96, illus., table.)

Early, intermediate and late roentgenograms of frostbitten rabbit-extremities are presented, analyzed and discussed. New bone formation, its location, extent, etc., osteoporosis, decalcification, and other pathologic changes are described and compared with conditions in human frostbite. **Copy seen:** DLC.

SCHEEN, ROLF, see Løchstøer, J. Den norske leidangen. 1951. No. 46420.

47819. SCHEFFER, JOHANNES, 1621-1679. Lappland. Gebers, 1956. 472 p. illus. map. (Stockholm. Nordiska museet. Acta lapponica, 8.) Text in Swedish. 112 refs. *Title tr.*: Lapland.

Swedish translation of a work by a German scholar, born in Strassburg and called by Queen Kristina to Sweden, where he became professor at Uppsala. The work was published in Latin at Frankfurt-am-Main in 1673 and translated into English in 1674 (No. 25926). It deals at length with the geography of Lapland, its climate and natural resources the physical and mental qualities of the Lapps, their origin, and all aspects of their life: religion, magic, judicial system and taxation, fairs, language, dwellings, clothes, food and drink, hunting, reindeer husbandry, leisure occupations, marriage, childbirth, education, illness, death, funerals, etc. Scheffer treated his subject scientifically, using ethnological methods almost modern. His work is based on reports sent in by persons familiar with Lapland, particularly clergy active in the area, and on older sources, which he subjected to a certain amount of historical criticism. There are numerous illustrations by the author.

Copy seen: SPRI.

47820. SCHELL, IRVING ISRAEL, 1906- . Interrelations of arctic ice with the atmosphere and the ocean in the North Atlantic-Arctic and adjacent areas. (Journal of meteorology, Feb. 1956. v. 13, no. 1, p. 46-58, tables, map.) 21 refs. Contribution 745 from the Woods Hole Oceanographic Institute, prepared under contract between that Institution and Office of Naval Research. cf. Arctic Bibliography No. 37254.

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Contains outline of the degree of interrelation between the severity of the arctic ice in the northern North Atlantic and the seasonal, annual and longerperiod variations in ocean and air temperatures, precipitation, and storm frequencies and mean storm tracks in that general area. The relationships of the ice with the contemporary and subsequent ocean and weather conditions are treated. Ice data for the Greenland Sea in general (since 1877) and the Barents Sea (since 1895) are treated. Tables showing the results of correlating the various ice data with oceanographic and meteorological data from the Arctic and adjacent areas by season, year and decade are included. Results obtained generally favor the theory that the arctic ice can serve as an index of ocean and weather conditions. The mean sea-ice limit in the Greenland and Barents Seas during Apr.-Aug. is a substantial measure of both the seasurface temperature near the Faroes and the east coast of Iceland, and the air temperature at Iceland, during the subsequent period Sept.-Feb. Decadal variations of arctic ice are a measure of decadal trends of ocean phenomena and weather in the region of the northern North Atlantic. Copy seen: DLC.

47821. SCHENK, ERWIN. Die periglazialen Strukturbodenbildungen als Folgen der Hydratationsvorgänge im Boden. (Eiszeitalter und Gegenwart, Aug. 1955. Bd. 6, p. 170-84, illus., diagr.) 33 refs. Text in German. Summary in English. Title tr.: Periglacial structural soil formations from hydration processes in the soil.

A theory on the mechanics of frost action in soils is developed. Soil is viewed as a polydispersed system of water, soil particles, and air. Phenomena taking place during freezing are attributed to hydration. The capacity of soil particles to absorb excess water during freezing is due to energy differences between the hydrating particles, and water movement is activated by the electric potential of the growing ice crystals

which is higher than that of the other components of the polydispersed system. **Copy seen:** DLC.

47822. SCHENK, ERWIN. Windorientierte Seen und Windablagerungen in periglacialen Gebieten Nordamerikas. (Erdkunde, Dec. 1956. Bd. 10, Heft 4, p. 302–306, illus, text map, diagr.) 11 refs. Text in German. Summary in English. Title tr.: Wind-oriented lakes and eolian deposits in periglacial regions of North America.

A description of the oriented lakes along the coast of northern Alaska, based on the literature of 1945–1951. As the north-south trend of the lakes does not coincide with present prevailing wind direction, wind direction and wind effects during the Pleistocene period must account for the phenomenon, an explanation favored by the colian deposits in these lake regions. Significance of these discoveries to interpretation of Pleistocene landforms in north and east Europe is noted.

\*\*Copy seen: DGS.\*\*

47823. SCHENKEL, E. Arachniden aus dem Sarekgebirge. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 4, Zoologie, Lfg. 10, pub. 1931. p. 949–80, 12 illus.) 17 refs. Text in German. Title tr.: Arachnids from the Sarek Mountains.

Localities are listed with notes on habitats, and 65 species enumerated, some fully described. Pocadicnemis ekblomi, Lephthyphantes hambergi and L. bergströmi are described as new.

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47824. SCHERMAN, KATHARINE. Spring on an arctic island. Boston, Little, Brown, 1956. xvii, 331 p. illus., map on endpapers.

Contains popular account of expedition in June-July 1954 to Bylot Island (73°20' N. 78°30' W.) by an eight-man party, including the writer and her husband. The expedition, sponsored by the New York Zoological Society and Arctic Institute of North America, carried out a study of plant and animal ecology on the tundra barrens and coastal waters, also physiological studies of the Baffin Island Eskimos. Camp was set up on the southwest coast of the island across from Pond Inlet on northern Baffin to which several trips were made. describes the Hudson's Bay Company post and traders at Pond Inlet; Eskimos of the region, their customs, some of their tales and legends, effects of conversion to Christianity and of contact with white men; birds, mammals, and plants seen on the island. Reviewed by E. W. Manning in Bewer Winter 1956, Outfit 287, p. 55. Copy seen: DNG.

47825. SCHILLER, EVERETT L. Ecology and health of *Rattus* at Nome, Alaska. (Journal of Mammalogy, May 1956. v. 37, no. 2, p. 181-88, plate.) 8 refs.

Contains results of a parasitological study of the brown rat, Rattus norvegicus; effect of winter conditions on this population is noted (tables 1-3). Several rats had severe pulmonary infections. Comparatively few parasites were found (tapeworms, nematodes and fleas). Rodent-control measures are suggested for the spring, when the rat population is at a low level of density, and before reproduction begins.

Copy seen: DSI.

47826. SCHILLER, EVERETT L. Hymenolepis johnsoni, n. sp., a cestode from the vole Microtus pennsylvanicus drummondii. (Washington Academy of Sciences. Journal, Feb. 20, 1952. v. 42, no. 2, p. 53-55, 3 illus.) 3 refs.

A description of this new tapeworm taken from small intestine of a vole at Fort Rae, Mackenzie District Canada.

Copy seen: DLC.

47827. SCHILLER, EVERETT L., and R. L. RAUSCH. Mammals of the Katmai National Monument, Alaska. (Arctic, 1956. v. 9, no. 3, p. 191–201, map.) 8 refs.

Contains a description of the area at the base of Alaska Peninsula, (approx. 1700 sq. mi. estab. in 1918, and subsequently extended), and of the field work. Records are given of 16 species collected and a similar number sighted. Occurrence and distribution, habitat and food, parasites, habits, etc., are discussed. Fieldwork was carried out by Schiller in summers 1953, 1954, and taxonomic work by Rausch, as part of a research program initiated by the U. S. Park Service.

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47828. SCHILLER, EVERETT L. Studies on the helminth fauna of Alaska, 15; some notes on the cysticercus of Taenia polyacantha Leuckart, 1856, from a vole Microtus oeconomus operarius Nelson. (Journal of parasitology, June 1953. v. 39, no. 3, p. 344-47, illus.) 5 refs.

Contains description of larvae found, unattached, in the abdominal cavity of a female tundra vole caught near Igiak Bay, Alaska, and maintained in the laboratory for over two months.

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47829. SCHILLER, EVERETT L. Studies on the helminth fauna of Alaska, 29: Urinatrema aspinosum n. sp. (Trematoda; Zoogonidae) from the urinary bladder of the greenling, Hexagrammos supercitiosus (Pallas). (Journal of parasitology, Oct. 1956. v. 42, no. 5, p. 531-32, illus., table) ref.

Description of this new species of flatworms found in fishes (greenlings) on Amchitka, Aleutian Islands. Comparisons with the only other known species of the genus, *U. hispidum*, are presented.

Copy seen: DNLM.

SCHILLER, EVERETT L., see also Rausch, R. L., and others. Studies . . . helminth fauna of Alaska, 27 . . . larvae of Trichinella spiralis . . . 1956. No. 47529.

47830. SCHJØLBERG, J. Norske soldater på ski. (Snø og ski; Foreningen til ski-idrettens fremme, Årbok 1954. årg. 60, p. 67-71.) Text in Norwegian. Title tr.: Norwegian soldiers on skis.

Notes skiing equipment and training of the Norwegian infantry after the war. Copy seen: DLC.

47831. SCHLEICHER, EUGEN. Die Grundlagen des Bauens bei tiefen Temperaturen. Berlin, Verlag Technik, 1952. 121 p. illus., diagrs. (3 fold.), graphs, tables. 37 refs. Text in German. Title tr.: Fundamentals of construction at low temperatures.

The fundamental physical concepts such as heat, heat transfer, freezing point lowering, etc., are discussed, and winter construction methods primarily as used in the U.S.S.R. and Poland, are described. Included are descriptions of the properties of construction materials at low temperatures and at high humidities; foundation construction; concreting; chemical anti-frost agents; masonry construction; roofing; steel construction. Heat requirements for various purposes are calculated and the additional costs incurred during winter construction are detailed. Special maintenance practices and safety precautions as well as official standards and guides are discussed.

SCHLEICHER, EUGEN. Ratgeber für das Bauen im Winter; Planung und Ausführung mit den Hinweisen des Bundesministers für Wohnungsbau, für die Vorbereitung und Durchführung von Winterarbeiten im Hochbau und für Vergabe von Winterarbeiten im Hochbau. Wiesbaden, Bauverlag, 1956. 191, 87 p. illus., diagrs., graphs, maps, Approx. 620 refs. Text in Gertables. Title tr.: Advice for winter construction; planning and execution with directives from the federal minister for housing construction, for the preparation and execution of winter construction and for the assignment of winter construction.

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The economic significance and planning of winter construction are discussed, and a detailed description of techniques used is presented. Specialized equipment including heaters, burners, and steam generators is described, and each construction phase is treated in turn. A cost analysis and calculations of heat requirements are given. The most important official directives and standards are cited. An extensive bibliography arranged by language is appended.

Copy seen: DLC.

SCHLIG, BARBARA, see Kao, F. F., and B. Schlig. Impairment . . . gas transport and . . . exchange . . . hypothermia. 1956. No. 45883.

SCHLOSSER, RALPH J., see Bogardus, G. M., and R. J. Schlosser. The influence . . . temperature . . . ischemic renal damage. 1956. No. 44069.

47833. SCHMID, JOSEF. Der Bodenfrost als morphologischer Faktor; eine analytisch-morphogenetische Untersuchung der Frostbildungsvorgänge im winterkalten humiden Klimabereich und Erörterung der Frostphänomene überhaupt. Heidelberg, Alfred Hüthig, 1955. 144 p., illus., diagrs., graphs (1 fold.), 8 tables. Text in German. Title tr.: 146 refs. Ground frost as a morphological factor; an analytical-morphogenetic investigation of frost action in cold-winter humid climatic regions and discussion of frost phenomena in general.

Phenomena associated with ground frost in cold humid climates and methods of measurement and analysis are reviewed. The various forms of frozen soil and unsolved problems of mass movement and exchange in the soil are stated. Discussion follows on the effects of freezing water, ice formation, and (in detail) frost

heave. The behavior of different soil types when affected by frost is described, and measurements are given of frost heave. The particular morphological effects of frozen soil on stones, plants, trees, etc., are considered, and final chapters are devoted to patterned ground and solifluction. The text is supplemented by many diagrams and statistical tables. It is reviewed by H. A. G. Nathan in Canadian geographical journal, Dec. 1956, v. 53, no. 6, p. xii, xv.

Copy seen: DGS.

47834. SCHMID, JOSEF. Die Frosthebung. (Umschau, Mar. 15, 1956. Jahrg. 56, Heft 6, p. 177–80, illus., diagrs.) 2 refs. Text in German. *Title tr.:* Frost heaving.

Contains outline of frost phenomena, including solifluction and structural soils, theories on their origin, and measurements made in Germany from 1950-53 under various soil and terrain conditions,

Copy seen: DLC.

47835. SCHMIDT, ERICH. Two notes on corduliine nymphs: Odonata: Libellulidae. (Entomological news, Nov. 1951. v. 62, no. 9, p. 265-75, 3 illus.) 9 refs.

First note (p. 265-73) is a study of nymphal differentiation in the European Somatochlora arctica, native to northern Europe and Asia, and S. alpestris; comparative tabulated data of external characters, illus. and full descriptions of nymphs of both species are included.

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SCHMIDT, HENNING, see Christensen, P. E., and others. An epidemic of measles . . . 1951 . . . 1. 1952. No. 44357.

SCHMIDT, HENNING, see also Christensen, P. E., and others. An epidemic of measles . . . 1951 . . . . 2 . . . . 1953. No. 44358.

SCHMIDT, HENNING, see also Christensen, P. E., and others. An epidemic of measles . . . 1951 . . . 3 . . . 1953. No. 44359.

SCHMIDT, HENNING, see also Christensen, P. E., and H. Schmidt. An epidemic of measles . . . 1951 . . . 4 . . . 1953. No. 44360.

SCHMIDT, KURT F., see Goldberg, L. I., and K. F. Schmidt. Effects . . . total . . . sympathetic block . . . cardiac arrythmias . . . hypothermia. 1966. No. 45158.

SCHMIDT, R. L., see Spilsbury, R. H., and R. L. Schmidt. Ecological investigations . . . forests . . . 1956. No. 48151.

47836. SCHMIDT, WILHELM, 1868-1954. Der Ursprung der Gottesidee; eine historisch-kritische und positive Studie. 3. Teil: Die Religionen der Hirtenvölker V. Bd. 11, Die asiatischen Hirtenvölker: die primär-sekundären Hirtenvölker der Jakuten und der Sojoten-Karagassen sowie der Jenisseier und die Synthese der benachbarten Nicht-Hirtenvölker. Münster i. W., Aschendorffsche Verlagsbuchhandlung, 1954. 27, 734 p. 40 refs. Text in German. Title tr.: The origin of the idea of God, an historicocritical and positive study. Part 3: The religions of pastoral tribes, V. v. 11. The Asiatic pastoral tribes: the primary-secondary pastoral tribes of the Yakuts and the Soyot-Karagas as well as the Yeniseians and the synthesis of the neighboring non-pastoral tribes.

Analyzes the indigenous religions of the Yakuts (p. 1-398), the Soyot-Karagas (Samoyeds) (p. 399-467) and the Yeniseians (p. 469-564). Their gods and highgod idea, white and black shamanism, magic, mythology, national epics, demonology, soul conception, mortuary customs, etc., are discussed, and the older and younger religious layers differentiated. A comparison is made between the religious beliefs of the central Asiatic pastoral tribes and their non-nomadic neighbors: the Yukaghirs (p. 569-87), the Tungus (p. 588-682, 713-16) and the Yeniseians (p. 683-712). This posthumous volume is in sequence with those of No. 37266. It is reviewed by Lawrence Krader in American anthropologist, Oct. 1955, v. 57,

A biographical sketch of P. W. Schmidt by Joseph Henninger and a review of his scientific achievements by Wilhelm Koppers were pub. in Anthropos 1956, v. 51, fasc. 1-2, p. 19-80. Copy seen: DLC.

no. 5, p. 1077-79.

47837. SCHMIDT-LAMBERG, HER-BERT. Zur Entwicklung der arktischen Seefahrt. (Marine Rundschau, 1956. Jahrg. 53, Heft 3, p. 76–78.) Text in German. Title tr.: The development of arctic sea voyages.

Contains brief survey of the principal arctic voyages made since 320 B. C. when Pytheas of Piracus traveled from Marseille, France to the Island of Thule (Iceland).

Copy seen: DLC.

47838. SCHMITT, W. Russian radiosonde station at the North Pole. (South Africa. Weather Bureau. News letter, Nuusbrief, Oct. 31, 1954. no. 67, p. 3, table.)

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"Description of Soviet ice-floe station at 78° N. 180° E. sending daily synoptic and radiosonde observations, which appear since Aug. 4, 1954 on the Daily Weather Charts at Frankfurt-on-Main. Problems of housing and reporting (at North Pole wind direction must be coded differently) and some details of weather conditions are noted. Table gives mean maximum and minimum 500/1000 mb. geopotential for Aug. and Sept. 1954 for this station."—Meteorological abstracts & bibliography, Jan. 1956. v. 7, no. 1, p. 119. Copy seen: DWB.

47839. SCHMITT, WALDO LASALLE, 1887—. Notes on certain pycnogonids including descriptions of two new species of *Pycnogonum*. (Washington Academy of Sciences. Journal, Jan. 15, 1934. v. 24, no. 1, p. 61–70, 2 illus.)

Contains notes on Nymphon grossipes (Bering Strait, Norton Sound), Phoxichilidium femoratum (Stephen Passage, Alaska, Unalaska), Ammothea latifrons (Kiska Island) and A. pribilofensis (St. Paul Island).

Copy seen: DLC.

SCHMITT, WALDO LASALLE, 1887—, see Van Winkle, M. E., and W. L. Schmitt. Notes . . . Crustacea, chiefly Natantia . . . Robt. A. Bartlett . . . 1936. No. 48686.

SCHMÜCKER, AENNE, see Rasmussen, K. J. V. Schneehüttenlieder . . . 1947. No. 47522.

47840. SCHÖTT, HARALD GER-HARD, 1861–1933. Hoppstjärtar: Collembola. (*In*: Sjöstedt, Y. Insektfaunan inom Abisko nationalpark, III, pub. in Svenska vetenskapsakademien. Skrifter i naturskyddsårenden, 1931, nr. 18, p. 69–72.) Text in Swedish. *Title tr*: Springtails: Collembola.

Lists 23 species in three families, two sub-orders of Collembola collected in the Abisko region by Brundin in 1928-1929, and by Wahlgren (cf. No. 27211). Dates and locations of observation, associated vegetation and local surroundings are noted.

Copy seen: DLC.

47841. SCHØYEN, WILHELM MARI-BO, 1844-1918. Om frostskade paa furuskog. (Tidsskrift for skogbrug, Jan. 1909. Aarg. 17, nr. 1, p. 25-27.) Refs. in text. Text in Norwegian. *Title tr:* Frost

damage in pine forest.

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From observations in Scandinavia, including Nordland in Norway and northern Norrbotten in Sweden, it is concluded that frost damage may result from a variety of combinations of weather and tree conditions. Cool, damp summers often leave immature growth that is subject to early frost. Elevation, location, temperature, humidity, and evaporation are considered. Copy seen: DA.

SCHOFIELD, B., see Steere, W. C., and B. Schofield. Myuroclada . . . 1956. No. 48179.

47842. SCHOLANDER, PER FREDRIK, 1905- . Climatic rules. (Evolution, Sept. 1956, v. 10, no. 3, p. 339-40.)

Sept. 1956, v. 10, no. 3, p. 339-40.)

A reply to critiques of M. T. Newman and E. Mayer, q. q. v. reaffirming his ideas (No. 42332) on the supremacy of physiological adaptation to cold and the relative insignificance of morphological factors as expressed by Bergmann's and Allen's rules.

\*\*Copy seen: DLC.\*\*

47843. SCHOLANDER, PER FREDRIK, 1905—, and others. Gases in icebergs. (Science, Jan. 20, 1956. v. 123, no. 3186, p. 104–105, table.) 8 refs. Other authors: J. W. Kanwisher and D. C. Nutt.

Contains results of studies on pieces of icebergs taken on board the research vessel Blue Dolphin along the Labrador coast during 1954. Most bergs in this area are of Greenland origin. A piece of ice was melted in mercury. gas phase and the dissolved gases in the melt water were analyzed separately and the results were totaled. Thirty pieces taken from six different bergs were analyzed; the oxygen content in all of the bergs is close to that of the atmosphere, 20.9 percent. Bubbles in the icebergs were found to be under 2-6 atm. pressure. The combined accuracy of the various measurements is estimated to about  $\pm 0.2$  percent by volume for the total oxygen and nitrogen. The pressure estimates are probably valid to within  $\pm 25$  percent. Copy seen: DLC.

SCHOLANDER, PER FREDRIK, 1905-, see also Coachman, L. K., and others. Gas enclosures . . . temperate glacier. 1956. No. 44395.

SCHOLANDER, PER FREDRIK, 1905-, see also Erikson, H., and others. The critical temperature in naked man. 1956. No. 44791.

47844. SCHOTTE, GUNNAR. Tallkottens och tallfröets beskaffenhet skardeåret 1903–1904. (Stockholm. Statens skogsförsöksanstalt. Meddelanden, 1905. häfte 2, p. 1–40, illus., plate, diagrs., tables.) Text in Swedish. Summary in German. Title tr.: Pine cone and seed quality in the harvest year, 1903–1904.

Following the unfavorable summer of 1902, the crop of cones in the harvest season 1903-04 was abundant; but vitality of the seed investigated by germination tests from many localities, including Lapland, proved disappointingly low. Similar conditions, often repeated, may account for poor reforestation in the North. Copy seen: DGS.

SCHREINER, KRISTIAN EMIL, 1874- , see Gjessing, G. Traen-funnene. 1943. No. 45139.

SCHRÖDER, J., see Franke, H., and J. Schröder. Über synchrone strömungscalorimetrische Messungen . . . 1955. No. 44956.

SCHÜMMELFEDER, N., see Eckel, W., and N. Schümmelfeder. Histophysikalische Untersuchungen . . . calorischer Reizung. 1955. No. 44719.

47845. SCHULTZ, LEONARD PETER, 1901-, and F. J. GUNDERSON. New records of marine West Coast fishes. (Copeia, July 1, 1932. no. 2, p. 65–68, 2 tables.)

Includes several from Alaskan localities: a ragfish, Acrotus willoughbyi caught near Petersburg, Sardinops caerulea taken near Cape Ommaney, Ulca marmorata from the Wrangell area and Pleuronichthys decurrens in Zaikof Bay, Prince William Sound.

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47846. SCHULTZ, LEONARD PETER, 1901-, and A. D. WELANDER. A review of the cods of the northeastern Pacific with comparative notes on related species. (Copeia, Oct. 15, 1935, no. 3, p. 127-39, 9 illus.) 27 refs.

Contains an analysis of the characters of the various genera and species; a discussion of the status of Eleginus gracilis (Sitkalidak Strait, Alaska), and comparison of this species with Microgadus proximus (Admiralty Island); notes on subspecies of Theragra chalcogramma

(Sawmill Bay, Alaska) and on *Boreogadus agilis* (Godhavn Harbor, West Greenland) and *Arctogadus pearyi* (Lincoln Bay, northwest Greenland).

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47847. SCHULTZ, LEONARD PETER, 1901-. Two marine fishes new to the fauna of Alaska, with notes on another species. (Washington Academy of Sciences. Journal, Feb. 15, 1943. v. 33, no. 2, p. 59-62, illus.)

Contains a key to the North Pacific species of genus Sebastodes; description and measurement tables of S. polyspinis, Eurymen gyrinus and Triglops metopias, all obtained in Alaskan waters by W. L. Schmitt.

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SCHWAB, LOUIS, see Kaplan, S., and others. Oxygen availability . . . 1956. No. 45887.

47848. SCHWABE, W. W. Effects of natural and artificial light in arctic latitudes on long- and short-day plants as revealed by growth analysis. (Annals of botany, Oct. 1956. new ser., v. 20, no. 80, p. 587-622, 6 illus., 16 tables.) 38 refs.

Results of study carried out summer 1952 at Abisko Naturvetenskaplig Station in Swedish Lapland (68°20' N.) at about 1250 ft. above sea-level. Growth of various plants was investigated under conditions of (1) continuous full daylight (24 hrs.), (2) full daylight for the whole of the daily photo-period, and (3) full daylight for half of the photo-period, the other half consisting of either daylight reduced by shading or light from incandescent lamps or fluorescent tubes, all of the same low intensity. Data were collected on dry weight, leaf area, height, water content, epidermal cell size, net assimilation rate, time to flowering, stomatal aperture, and leaf posture. The experiments indicate that both the light source used to supplement natural daylight and the intensity of illumination have pronounced effects on plant structure and growth. The modification of growth tends in general to be toward minimizing the adverse effects of the reduced intensity or duration of light. The long-day response of sugar-beet, barley, and Hyoscyamus may be almost completely suppressed if the relatively low-intensity white light used as a supplement, is deficient in the red end of the spectrum. Copy seen: DLC. SCHWARTZ, I. L., see Itoh, S., and I. L. Schwartz. Temperature . . . swelling of liver slices . . . 1956. No. 45728.

47849. SCHWARTZKOPF, KARL-AAGE. Min kallaste långfärd. (Svenska turistföreningen, Stockholm. Årsskrift, 1955. p. 238–44.) 4 illus. Text in Swedish. *Title tr.:* My coldest long journey.

Humorous narrative of a ski trip from Stora Luleåvatten by way of Alloluokta, Jaurekaska, Akka, Sarek, Sulitjelma, Sallohaure, Staloluokta, and Sårjåsjaure, to Bodø; weather, trials of well-equipped travellers, etc., are described.

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**47850. SCHWARZ, HERBERT F.** [Obituaries]. (Explorers journal, 1956. v. 34, no. 1, p. 32–34; no. 2–4, p. 30.)

Contains obituaries for Dr. Alexander D. Bajkov (1894–1955), ichthyologist, who participated in seven expeditions to the Arctic, a Russian emigré and member of the Oregon Fish Commission (no. 1, p. 32), Theodore Slevin Farrely (1885?–1955), businessman who specialized in early Alaskan history (no. 1, p. 33–34); Col. Douglas B. Wesson (d. 1956?), photographer with the 1939 Alaska Expedition of B. R. Hubbard, S. J., which carried out ethnological research among northern Alaska Eskimos (no. 2-4, p. 30).

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SCHWARZENBACH, FRITZ H., see Röthlisberger, H., and F. H. Schwarzenbach. Mitteilungen über . . . Baffin Island. 1956. No. 47640.

47851. SCHWEDEN; Reiseland im Norden. Stockholm, Delphin, 1952. 212 p. illus. Text in German. *Title tr.:* Sweden; travel land in the North.

Factual account for tourists of the geography, population, history, government, religion, consumers' cooperatives, schools and education, sports and recreation, arts, industry and trade, communications. Includes throughout, scattered references to the Arctic; section on Lapland (p. 200–210) sketches nature and climate, winter sports, iron industry, power, communication systems, etc.

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SCHWELLNUS, J. J. G., see Moss, A. E., and J. J. G. Schwellnus. The Quebec-Labrador ore . . . Sokoman formation. 1956. No. 46871.

47852. SCHYTT, VALTER. Bilder från grönländska isar. (Ymer 1956. Årg. 76, häfte 2, p. 101–20, illus.) Text in Swedish. Summary in English. *Title tr.:* Glaciological pictures from Greenland.

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Contains 16 photographs with explanatory text, illustrating phenomena characteristic of the area just east of Thule, North Greenland. During summer 1954, the author was engaged there in glaciological research: accumulation, ablation, refreezing of melt-water, ice movement, meteorological conditions and some moraine features. The scientific results are to be published as a report of the Snow Ice Permafrost Research Establishment of the U. S. Army Corps of Engineers.

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47853. SCHYTT, VALTER. Lateral drainage channels along the northern side of the Moltke Glacier, northwest Greenland. (Geografiska annaler, 1956. Årg. 38, häfte 1, p. 64-77, 6 illus., text map, diagrs.) 10 refs.

Describes the development of a major shear plane between the stagnant front of a glacier and the "active" ice behind, and the formation of moraine along this plane when the active ice, carrying bottom debris, overrides the stagnant front. This can be observed at the inland ice edge east of Thule. A similar process acting along the northern edge of the east-flowing Moltke Glacier (Sermerssuak, 76°35' N. 67°55' W.) between a lateral stagnant zone and the living glacier appears to explain formation of lateral channels observed there in summer 1954. Morainal deposits along the shear zone protect the underlying ice from ablation; a lateral ice ridge develops between the glacier's edge and a new depression in the active ice on the glacier side of the ridge, a depression caused by melting and stream erosion.

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47854. SCIACCHITANO, ANGELO. Vestigia di antiche civiltà artiche. (Universo, July-Aug. 1956. anno 36, no. 4, p. 659-60.) Text in Italian. *Title tr.*: Traces of ancient arctic civilizations.

Contains note on archeological discovery in the northwest corner of Yukon Territory, made by R. S. MacNeish, q. v. Copy seen: DGS.

47855. SCIENCE. Oceanographic survey of the North Pacific Ocean.

(Science, June 3, 1955. v. 121, no. 3153, p. 794.)

Notes summer 1955 plans for Operation NORPAC, a survey by Canada, Japan and the United States including the Bering Sea, Aleutian waters and Gulf of Alaska. Investigations are to cover physical and biological oceanography and the results are to serve the fisheries of the three countries. Participating agencies, number of vessels and personnel, etc., are noted. Copy seen: DLC.

47856. SCIENCE. Twenty-two field research projects scheduled by the Arctic Institute of North America. (Science, Aug. 5, 1955. v. 122, no. 3162, p. 235.)

Notes summer 1955 projects at the Arctic Research Laboratory, Point Barrow, Alaska and in northern Canada and Alaska. They include geological, glaciological and biological studies, also investigations on geomagnetic problems, disturbances in radio transmission. Principal investigators are listed.

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47857. SCIENCE NEWS LETTER. Water under permafrost may cause odd behavior. (Science news letter, Jan. 7, 1956. v. 69, no. 1, p. 9, col. 2.)

Contains note on the work of Fritz Muller, Swiss geologist, according to whom ground heaving in permafrost areas might be partly attributed to subpermafrost water. Copy seen: DLC.

47858. SCOTT, DONALD CHARLES, 1930- . Record of perch, Perca flavescens, from Great Slave Lake, N. W. T. (Canadian field-naturalist, Apr.-June 1956. v. 70, no. 2, p. 99.)

On Nov. 28, 1954, a single specimen of yellow perch was caught. The specimen was a three-and-a-half-year old mature male, 11.9 cm. long, weighing 28.9 gm. The northern limit of perch has been reported previously as Lake Athabaska.

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47859. SCOTT, EDWARD MARION. Nutrition of Alaskan Eskimos. (Nutrition reviews, Jan. 1956. v. 14, no. 1, p. 1-3, table.)

Contains information on the traditional Eskimo diet and its three types in Alaska; its nutritive value; ways of eating and preparing food. Transition to white man's diet, and its caloric value are discussed; experiments with gardening and reindeer are noted. The food-producing or wage-earning men comprise

only 21 percent of the Eskimo population. Immediate and long-range nutritional problems are considered, the latter as part of the general problem of attaining adequate income. Copy seen: DLC.

SCOTT, EDWARD MARION, see also Porter, V. S., and others. Anemia in western Alaska. 1956. No. 47428.

SCOTT, J., see Haddy, F. J., and others. The effect of cold upon . . . vessel resistance. 1956. No. 45365.

SCOTT, J. W., see Gunton, R. W., and others. Changes in cardiac rhythm . . . electrocardiogram . . . hypothermia . . . 1956. No. 45346.

SCOTT, PETER MARKHAM, 1909—, see Hanson, H. C., and others. The geography, birds, and mammals . . . Perry River . . . 1956. No. 45431.

47860. SCOTT, ROBERT F. The problem of biogeography in Alaska. (Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 208–211.) 8 refs.

Discusses an Alaska-Siberia land bridge during the Pleistocene and its role as a refugium for plants during the glacial maxima, based on Hultén (No. 7551). Peculiarities of Alaskan bird and animal distribution and migrations are noted as research problems requiring combined efforts of geologists, geographers, climatologists, anthropoligists, and paleontologists. Other fundamental biological phenomena should be studied, such as those associated with the genetics of morphological and ecological differentiation, also range-limiting factors in space and time.

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SCOTT, ROBERT F., see also Watson, G. W., and R. F. Scott. Aerial censusing . . . Nelchina caribou . . . 1956. No. 48874.

47861. SCOTT, W. A. Diagrams for arctic polar navigation. (Institute of Navigation, London. Journal. Apr. 1956. v. 9, no. 2, p. 242–43.)

Contains brief review of four diagrams issued by the French Navy Hydrographic Office. They are drawn on a scale of 1:12 million and are designed primarily for aircraft navigation north of 60° N. They are essentially sets of altitude curves for various celestial bodies which can be placed beneath a transparent copy of the basic map and position lines drawn.

These diagrams (29½ x 41½ in.) are based on French Polar Chart No. 5966.

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SCOTT, WILLIAM BEVERELEY, 1917-, see Dymond, J. R., and W. B. Scott. Fishes . . . Kenora . . . 1941. No. 44700.

47862. SCOTT POLAR RESEARCH INSTITUTE, Cambridge, Eng. Scott Polar Research Institute. Cambridge, Cambridge University Press, 1956. 13 p. 7 illus., port.

Third edition of a booklet dealing with the origin and purpose of the Institute, its building, museum, library, staff rooms, lectures and meetings, correspondence and inquiries, research, the *Polar record*, and special publications, management and staff, finances. *Copy seen:* CaMAI.

SCOTT POLAR RESEARCH INSTI-TUTE, Cambridge, Eng., see also Roberts, B. B. Abstract . . . Universal Decimal Classification . . . 1956. No. 47608.

47863. SDOBNIKOV, V. M. Izmenenia v ornitofaune severnogo Taĭmyra. (Priroda, Sept. 1956. god 45, no. 9, p. 109–110, 2 illus.) 5 refs. Text in Russian. *Title tr.:* Changes in the ornithological fauna of northern Taymyr.

Writer's observations in 1949 and comparison with old records of bird distribution indicate that many birds have extended their area by 0°50′ to 4°30′ northward. Northern limits of five species as recorded by A. F. Middendorf in 1843 and by the author in 1948-49 are tabulated. Warming of the climate is suggested as the main contributing factor. Copy seen: DLC.

47864. SEAGRAN, HARRY L. Effect of pH and salt content on curd formation in canned salmon. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub.* 1956, p. 77.)

Summary of investigation which showed that prevention of curd formation and fluid retention in canned salmon prepared from frozen fish were caused by muscle protein swelling and imbibing free liquid. This process was most pronounced above a pH of about 6.5 and in the presence of 2-5 percent salt in the flesh.

\*\*Copy seen:\*\* DGS.\*\*

47865. SEALANDER, JOHN ARTHUR, 1917— . Influence of temperature stress on uptake of P<sup>32</sup> in the rat. (American

journal of physiology. Aug. 1956. v. 186, no. 2, p. 227-30, illus., table.) 18 refs.

Measurements of P<sup>32</sup> and total P showed that the percentage of the injected dose was significantly higher in heat-stressed as compared with coldstressed rats in liver, bone and adrenal. The situation was reversed in the brawn fat; no differences were observed in the body fat.

\*\*Copy seen: DNLM.\*\*

47866. SEAMAN, E. A., and H. B. LUTZ. A portable heart beat recorder, 25 January 1956. 7 p. illus. (Canada. Defence Research Northern Laboratory, Technical memorandum no. 1/56.) 2 refs.

Description of a portable, self-contained unit for recording the heart beat of test subjects in the field. It consists of a recorder with a spring-driven chart, a photo-electric heart beat pick-up and amplifier, and is used in assessing protective qualities of arctic clothing, etc.

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47867. SEAMAN, E. A., and others. A telemetry system for recording body temperatures and heart beats of human subjects under arctic test conditions. 25 January 1956. 51 p. illus. (Canada. Defence Research Northern Laboratory. Report no. 4/56.) 6 refs. Other authors: H. B. Lutz and R. R. Cretchley.

Account of preliminary work in developing a telemetric system for recording deep body temperatures, 12 skin temperatures and heart beats of active subjects. Temperature and heart-beat pickups and associated amplifiers; transmitting, receiving and recording equipment, and power supplies are described and discussed. Special consideration is given to portability and resistance to low temperature.

\*\*Copy seen: DNLM.\*\*

47868. SEAMON, L. H., and G. S. BARTLETT. Climatological extremes. (Weatherwise, Dec. 1956. v. 9, no. 6, p. 192–94, 213, text map.)

Popular summary of highest and lowest temperature records, greatest and least rainfall, and heaviest snowfalls. Notes low temperatures at Verkhoyansk and Oymyakon in northeast Siberia; Mt. McKinley and Tanana, Alaska; Greenland icecap; Snag, Yukon; also record rainfall at Cordova and Little Port Walter, Alaska, and record snowfall at Thompson Pass, Alaska.

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47869. SEBELIEN, JON. Om menneskenes aeldste bruksmetal. (Naturen, Apr.-May 1926. Årg. 50, nr. 4–5, p. 113–25, 143–54, 5 illus.) Text in Norwegian. *Title tr.:* On mankind's earliest useful metals.

Includes reference to the Polar Eskimos and their use of meteoric iron, p. 117-18.

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47870. SECHER, ALEX. To gange Grønland. (Grønland, Feb. 1956, nr. 2, p. 50-56, illus.) Text in Danish. *Title tr.:* Two times Greenland.

Contains impressions of Greenland by the author-artist, illus. by himself, and a few notes on an exhibition of paintings from the last 50 years with Greenland motifs, held in Copenhagen in 1953. Artists mentioned include Harald Molkte, Ernst Hansen, Magnus Bengtsson and a few Greenland painters.

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47871. SEDOV, V. P. Izuchenie rezhima podzemnykh vod v oblasti rasprostranenia vechnol merzloty. (*In:* Moskva. Vsesofiznyl nauchno-issledovatel'skil institut gidrogeologii . . . Metodicheskoe rukovodstvo, 1954. p. 50-53.) Text in Russian. *Title tr.:* Study of ground water in permafrost.

"The effects of the low temperature and impermeability of permafrost on the freezing, chemical composition, distribution and run-off of ground water are analyzed, and the methodology of studying ground water is outlined. Observations are recommended twice yearly, in the spring and near the end of summer or at the beginning of autumn. Spring investigations are important for measuring minimum temperatures, locating thawed spaces in permafrost and studying ground icings. Autumn observations are needed to determine permafrost depth, the distribution of ground water and the effect of microrelief on permafrost."-SIPRE. Effects are noted (p. 51) of water reservoir, mining and other installations upon ground water in permafrost.

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47872. SEDYKH, K. F. Ledovitomorskie minogi v akvariume. (Priroda, Oct. 1956. god 45, no. 10, p. 114-15.) Text in Russian. *Title tr.:* Arctic lampreys in the aquarium.

Describes an experiment of keeping four adults and ten larvae of Lampetra japonica and L. j. kessleri in a 45-liter aquarium. Only four specimens sur-

vived; they lived for seven months, at time of writing, in the sand on the bottom of the aquarium. These lampreys are widely distributed in the rivers of northeastern European U. S. R. and Siberia (Ob' basin) but they usually perish when kept in aquaria.

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47873. SEELYE STEVENSON VALUE & KNECHT, Consulting engineers. Report on water supply for the DEW Line. New York, Feb. 10, 1956. [214] l. illus., diagrs., charts, maps, tables.

Results are given of an inspection made during Nov.—Dec. 1955 of the natural water supply at various points along the Distant Early Warning Line. Recommendations are made on adequacy of the water, its treatment and delivery methods. Techniques proposed for treating the water include sterilization, filtration, softening, iron removal, and pH adjustment. Manual delivery methods as well as heated and unheated pipelines are proposed. Adequate water supplies were found at all sites except one.

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47874. SEGAR, WILLIAM E., and others. Urinary composition during hypothermia. (American journal of physiology, June 1956. v. 185, no. 3, p. 528–32, illus., tables.) 15 refs. Other authors: P. A. Riley, Jr., and T. G. Barila.

Dogs cooled to 22° C. showed an increase of whole blood pH and a decrease in serum potassium, with little change in other values studied. Urine flow increased with drop of temperature and the U/p ratios of sodium, potassium and chloride approach unity. The U/p ratio of creatinine dropped from 150 to 8; the ability of the kidney to produce ammonia and to acidify the urine also decreased with cooling.

\*\*Copy seen: DNLM.\*\*

47875. SEGERSTRÅLE, SVEN G. The amphipods on the coasts of Finland, some facts and problems. Helsinki, 1950. 28 p., illus., diagrs., text maps. (Finska vetenskaps-societeten. Commentationes biologicae, t. 10, no. 14.) 31 refs.

Includes the conclusion, regarding Gammarus zaddachi oceanicus, that it has a single-year life span in Baltic waters and a two-year span in arctic waters. Ecological tolerance of Gammarus duebeni is cited in comparison of its habitats in Finland and Greenland waters.

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47876. SEGERSTRÄLE, SVEN G. Ett negativt drag i Finlands biogeografiska fysionomi. (Finlands natur, 1954. Årg. 13, p. 17–23, illus., maps.) Text in Swedish. *Title tr.:* A negative feature on the biogeographic face of Finland.

Gammarus lacustris, absent from southern Finland, migrated from ice-free refuges on the Kola and Norwegian coasts into Sweden, from southeast via Ladoga and from the southwest. The probability of this marine crustacean being transported by waterfowl has been substantiated by experiment. Several other species, including a milkweed, Mulgedium alpinum, birds Phylloscopus borealis, and Emberiza pusilla, etc. similarly are lacking in the fauna of southern Finland, but in time they will appear.

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47877. SEGERSTRÅLE, SVEN G. On collections of *Gammarus* (Amphipoda) from arctic waters: coast Petsamo-Kanin, coast of Siberia. Helsinki, 1948. 13 p. text map, table. (Finska vetenskapssocieteten. Commentationes biologicae, t. 10, no. 6.) 12 refs.

Thirty-two samples of material from the Petsamo-Kanin coast and three from the eastern Siberian coast where the Vega wintered, all containing amphipods, were found to contain several species. The most common was Gammarus zaddachi oceanicus. Locations are cited from which other species come.

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47878. SEGUIN, RICHARD L. Limites géographiques et facteurs climatiques de la distribution naturelle de la truite mouchetée. (Revue canadienne de géographie, Apr.—Sept. 1956. v. 10, no. 2–3, p. 113–17, text map.) Text in French. Summary in English. *Title tr.:* Geographic limits and climatic factors in the natural distribution of speckled trout.

The speckled trout (Salvelinus fontinalis) is indigenous only to the northeast of North America. In Canada it is found throughout the Maritime Provinces, Labrador and Quebec, most of Ontario and northeast Manitoba (including Hudson and James Bay regions). Its area of distribution is limited on the north and northeast by Hudson and Davis Straits, on the east by the Labrador Sea and North Atlantic, and on the west by the line at which annual surplus precipitation becomes less than four inches. Distribution in United States is also discussed. Copy seen: DGS.

SEIBERT, RICHARD ALBERT, 1913-, see Handley, C. A., and R. A. Seibert. The biochemistry of tissue trauma: muscle protein. 1956. No. 45419.

SEIDENFADEN, GUNNAR, 1908-, see Denmark. Udenrigsministeriet. Greenland. 1956. No. 44601.

47879. SELANDER, STEN, 1891–. Ur sommarblommarnas historia. (Svenska turistföreningen, Stockholm. Årsskrift, 1953, p. 121–44, 12 illus., 4 text maps.) Text in Swedish. *Title tr.:* The history of our summer flowers.

Discussion concerns mostly arctic types of flora with limited distribution in Sweden; many species from the northern upland are related to elevation, soil, and climate; several are known to inhabit recently uncovered locations where ice has melted away, and to be found elsewhere only in northern Siberia, Spitsbergen, Greenland, or arctic America.

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47880. SELANDER, STEN, 1891—. Vatten i fara. (Svenska turistföreningen, Stockholm. Årsskrift, 1951, p. 230–40, 2 illus.) Text in Swedish. *Title tr.*: Water on its way.

Great changes have taken place on major streams in Sweden during the past half century. A few fine waterfalls in Lapland are to be preserved.

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SELBY, T. W., see Malone, G. K., and T. W. Selby. Relationship . . . cranking resistance . . . oils. 1956. No. 46596.

47881. SELIVANOV, L. S. O proiskhozhdenii khlora i broma v solânoi masse okeana. (Akademiâ nauk SSSR Kamehatskaâ vulkanologicheskaâ stanŝiâ. Bûlleten', no. 11, 1947. p. 26– 34, table.) Approx. 35 refs. Text in Russian. Title tr.: The origin of chlorine and bromine in the ocean's saline mass.

Advances theory of the volcanic origin of chlorine and bromine in sea water; some quantitative data are included on the chlorine ejected by volcanoes in Kamchatka and Alaska.

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SELKER, ROBERT, see Fisher, B., and others. Some physiologic effects . . . hypothermia . . . liver. 1956. No. 44906.

47882. SEL'KIN, D. I. Primenenie gidrofobnol zemli dhâ ustranenia moroz-

nogo puchenifa gruntov. (Zhurnal tekhnicheskof fiziki, Dec. 1955. t. 25, vyp. 14, p. 2451–57, diagrs. graphs, tables.) Text in Russian. *Title tr.:* Use of hydrophobic earth for elimination of frostheaving. Translated by E. R. Hope, as Canada, Defence Research Board, Directorate of Scientific Information, T236R, Ottawa, Nov. 1956. Copy at CaMAI.

The method and results are given of a laboratory study to determine the feasibility of using a layer of hydrophobic soil as a barrier against water migration from the subsoil and thus reduce frost heaving. The results indicated that the use of such an earth layer reduced soil humidity by 400 percent and soil heaving by 1400 percent. Hydrophobic earth may be prepared from the heaving soil itself, especially when the use of coarse-grained materials is expensive.

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47883. SELLAEG, JOHANNES, 1894 - . Sealing. (Norsk hvalfangst-tidende, June 1955. årg. 44, nr. 6, p. 316–23, illus. map, table.) Text in Norwegian and English.

Contains a brief survey of Norwegian sealing in the Arctic (mainly harp and hooded seal). The best areas are the socalled North ice and East ice (the region between Spitsbergen, Bjørnøya, Novaya Zemlya, Zemlya Frantsa-Iosifa and Murmansk), the West ice (drift ice between Jan Mayen and East Greenland), the Greenland Strait and Newfoundland. Some catch statistics are given (1954: 259,194 animals). An auxiliary service for sealers in the West ice was established in 1953; details on protection regulations are given. The sealing industry is under the fisheries administration; with, since 1953, a Sealing Council as advisory body. Copy seen: DA.

47884. SELLAEG, JOHANNES, 1894 - . Selfangst og fiske i fjerne farvann i 1955 og 1. halvår 1956. (Polarboken, 1956, p. 197–200.) Text in Norwegian. *Title tr.:* Sealing and fishing in foreign waters in 1955 and the first half of 1956.

Catch data are tabulated according to types of seal (five) and sealing grounds. Sealers' relations with Canadians and Russians are noted. Fishing catch is summarized by area; value of seal and fish are given. Areas concerned are Newfoundland and Greenland waters, and the West, North, and East ice.

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47885. SELLERS, EDWARD ALEX-ANDER, 1916—, and R. W. YOU. Deposition of fat in coronary arteries after exposure to cold. (British medical journal, Apr. 1956. no. 4971, p. 815–19, tables.) 25 refs.

Contains account of investigations on rats kept for 10–18 months on a stock ration in an environment of 1°—3° C. More than half developed coronary lipoidosis; a few showed small lesions of the aortas but renal damage was nearly always present; serum total lipids and free and bound cholesterol were significantly increased. Conditions in rats fed high fat diets and kept in the cold for six weeks, are also reported.

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47886. SELLNICK, MAX, and K. H. FORSSLUND. Die Camisiidae Schwedens; Acar. Oribat. (Arkiv för zoologi, 1956. ser. 2, bd. 8, no. 4, p. 473–530, 40 illus.) 25 refs. Text in German. Title tr.: Camisiidae of Sweden. Acar., Oribat.

Contains tables for the determinations of the genera and species, and descriptions of five genera and 21 species of this family of mites, a genus and one species new; localities are listed for each form. Fifteen species are recorded in Swedish Lapland.

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47887. SELMER-OLSEN, ROLF S. Om norske jordarters variasjon i korngradering og plastisitet. Oslo, Aschehoug, 1954. 102 p., 5 illus., 34 diagrs., 13 tables. (Norway. Geologiske undersøkelse, nr. 186.) Text in Norwegian. Summary in English. Title tr.: On the variations in particle size and plasticity of Norwegian soils.

Study was made to determine what a particle size curve can reveal of conditions of soil deposition, and how plasticity of Norwegian clay varies. Samples of eolian, strand, glacial lake, fine-grained marine, glaciofluvial, morainal, and post-Glacial river materials were subjected to laboratory analysis. Various kinds from arctic locations in Norway and several from Svalbard (list p. 65) were tested. Some comparisons are made between American and Norwegian analytical procedures, and between foreign and Norwegian clay, the latter, generally, having low plasticity. Copy seen: DGS.

47888. SEMENOV, A. E., and V. I. KUZNETSOV. Sibirskafa lukovafa mol', Acrolepia alliella, n. sp., kak novyi vreditel' luka na krainem severe. (Zoologi-

cheskii zhurnal, Nov. 1956. t. 35, vyp. 11, p. 1676-80, 3 illus.) 5 refs. Text in Russian. *Title tr.:* The Siberian onion moth, *Acrolepia alliella* n. sp., as a new onion pest in the far North.

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Describes this moth, the caterpillars of which damage various species of cultivated onion (Allium cepa, A. fistulosum, A. sativum and A. schoenoprasum) in Krasnoyarsk province (Yartsevo, 64°11′ N. 90° E.). This species is related to the common onion moth, Acrolepia assectella, but can be easily distinguished by the structure of male and female genitalia. Spraying with DDT and regular removal of infected (yellow) parts of the onion are recommended for control of this pest.

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47889. SEMENOV, ANDREĬ. Chudesnyi poluostrov. (Vokrug sveta, May 1956. no. 5, p. 10–13, illus.) Text in Russian. *Title tr.:* The wonderful peninsula.

Sketch of Koni Peninsula (59° N. 151°30′ E.) near Magadan, as if described by the painter Nikolaí Lobov, who participated in an archeological expedition there: the rivers, abundant and characteristic flora, the wildlife, seals, bears, birds, etc.; discovery of ancient Koryak dwellings is noted.

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47890. SEMENOV, ANDREĬ. Gorod u Okhotskogo moriâ. (Vokrug sveta, June 1956, no. 6, p. 6–7, illus.) Text in Russian. *Title tr.:* A town on the Okhotsk Sea.

Sketch of Magadan as a starting point for the reclamation and development of the province of the same name: industrial progress, buildings, dwellings, theater, library, etc. Local successes in agriculture and vegetable growing are noted. Criticized by N. Filippov, q. v.

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47891. SEMENOV, ANDREĬ. Po dorogam molodogo kraûa. (Vokrug sveta, Apr. 1956, no. 4, p. 6–9, illus.) Text in Russian. *Title tr.:* On the roads of the young country.

Recounts experiences on a trip in June (1955?) from Magadan to Seymchan (62°54′ N. 152°26′ E.). Writer traveled by bus on the new auto road from Magadan to the Cherskiy Range; by motor boat down the Kolyma to Verkhniy Seymchan; and over a taiga trail to Seymchan. Traffic on the auto road, industrial development of Magadan Province, and the settlements of Palatka, Atka

(Elinchan, 60°50′ N. 151°50′ E.), Strelka (61°52′ N. 152°18′ E.), Verkhniy Seymchan and Seymchan are noted in passing Visits to state and collective farms, etc., are described.

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47892. SEMENOV, B. T. "Sekret" dobychlivosti v kapkannom promysle. (Rafsionalizafsifa okhotnich'ego promysla, 1956, vyp. 5, p. 14–22, plans.) Text in Russian. *Title tr.:* "Secret" of successful trapping.

Discusses methods of setting traps for wolves and foxes based on study of the psychology of these animals. The author is the chief of the Northern Regional Laboratory of the All-Union Scientific Research Institute of Hunting (Vsesofuznyi nauchno-issledovatel'skii institut okhotnich'ego promysla, VNIO).

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47893. SEMENOV, E. I., and others. Vinogradovit, novy1 mineral. (Akademiña nauk SSSR. Doklady, July 21, 1956. t. 109, no. 3, p. 617-20, 3 illus., 3 tables.) Text in Russian. Other authors: É. M. Bonshtedt-Kupletskañ, V. A. Moleva and N. N. Sludskañ. Title tr.: Vinogradovite. a new mineral.

Contains data on the crystallographic structure (tables 1-2) of this white needle-shaped mineral found in alkaline pegmatites of the Kola Peninsula (Khibiny mountains and Lovozero massifin 1950. Vinogradovite is a water-silicate of titanium (Ti) and sodium (Na); complete chemical analysis is indicated (table 3). By its optical characteristics, specific gravity and qualitative content vinogradovite is somewhat allied to murmanite.

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SEMENOV, TURII NIKOLAEVICH, 1894—, see Waxell, S. L. Den stora expeditionen . . . 1953. No. 48880.

SEMENOV, N., see Losavio, G., and N. Semenov. Novyl metod progreva dvigatelel . . . 1956. No. 46443.

47894. SEMENOV, V. S. Russkie vrachi v Ākutii. (*In:* Akademiā nauk SSSR. Ākutskii filial. Institut fazyka, literatury i istorii. Veduschafā rol' russkogo naroda . . ., 1955. p. 182–98.) 33 refs. Text in Russian. *Title tr.:* Russian physicians in Yakutia.

Describes the selfless work of Russian physicians and the prevailing local diseases in the 19th century. Selected comparative statistics for the pre- and post-Revolutionary periods are given:

hospitals and clinics, physicians and medical personnel, medical students, maternity wards, etc.

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47895. SEMENOV-TĀN-SHANSKIĬ, O. I. O nereste ruch'evoī minogi. (Zoologicheskiĭ zhurnal, June 1956. t. 35, vyp. 6, p. 937–38.) Text in Russian. Title tr.: On spawning of the brook lamprey.

Contains observations on spawning of two small schools of spring lampreys, Lampetra japonica kessleri, in a right tributary of Pechora River, June 1953. Three females were captured and examined.

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SEMENOVA-TÂN-SHANSKAÂ, A. M., see Akademiâ nauk SSR. Botanicheskil institut. Rastitel'nyl pokrov SSSR. . . . Botanicheskalâ karta SSSR . . . 1956. No. 43520.

SEMENOVICH, N. I., see Obruchev, S. V. Spravochnik puteshestvennika . . 1949-50. No. 47123.

47896. SEMENOVICH, N. N. Restavratsiñ i ékspozitsiñ bol'shogo vollochnogo kovra iz Pazyryka. (Akademiñ nauk SSSR. Institut istorii material'nol kul'tury. Kratkie soobshcheniñ, 1956. vyp. 64, p. 144–48, illus., diagr.) Ref. Text in Russian. *Title tr.:* Restoration and exhibition of large felt rug from Pazyryk.

Describes an ornamental rug excavated by the 1949 Gorno-Altayskaya expedition, and dated by S. I. Rudenko as 5th century B. C. Its good condition is attributed to the comparatively small loss of hygroscopic humidity due to its preservation in ice in the permafrost layer, which prevented contact with air. Copy seen: DLC.

47897. SEMEROV, P. F., and M. N. DZ HAKSON. Tekhno-ėkonomicheskii analiz Takhtarvumchorrskogo mestorozhdenifa. (In: Khibinskie apatity, 1933. t. 6, p. 154–55.) Text in Russian. Title tr.: Technical and economic analyses of the Takhtarvumchorr deposits.

Evaluation of the deposits in respect to production costs, available reserves in the U. S. S. R. Copy seen: DGS.

47898. SEMINA, G. I. Sezonnye smeny fitoplanktona zapadnof chasti Beringovogo morfa. (Akademifa nauk SSSR. Botanicheskii institut. Otdel sporovykh rastenii. Botanicheskie materialy, 1956. t. 11, p. 84-98, 4 illus.) 16 refs. Text in Russian. *Title tr.:* Seasonal changes of phytoplankton in the western section of

the Bering Sea.

Fluctuations of the biomass and phytoplankton content were studied from collections of the research vessel Vitiaz' May-June, Aug.-Sept., Sept.-Oct. and Dec.-Jan. Results for Kamchatka waters, Olyutorskiy Bay, Anadyr Gulf, and the oceanic zone are presented in The fluctuations in general are more pronounced in the neritic continental shelf than the oceanic zone. In the spring time, arctic and arcto-boreal species are predominant and the biomass is at a maximum in the neritic zone; in autumn, the biomass is smaller but still substantial, and boreal species are in majority. The flowering of the sea water is more active in spring than fall. The biomass has two maximums, spring and autumn, in Kamchatka and Olyutorskiy regions; only one (autumn) was observed in Anadyr Bay and the oceanic zone. In winter time, the biomass is small in both coastal and oceanic zones and boreal oceanic diatoms are predominant. Copy seen: DLC.

47899. SEMINA, G. I. Sostav i raspredelenie fitoplanktona v severozapadnol chasti Tikhogo okeana vesnoi i osen'fü 1955 g. (Akademifa nauk SSSR. Doklady, Sept. 21, 1956. t. 110, no. 3, p. 465-68, text map.) 13 refs. Text in Russian. Title tr.: Composition and distribution of phytoplankton in the northwestern part of the Pacific Ocean during the spring and autumn of 1955.

Includes data on the boreal zone in Commander Islands-Kamchatka Peninsula region, which may be divided into two subzones: neritic, along the coast of Kamchatka and the northern Kurils, and oceanic, the rest of the region. In the neritic subzone, 36 algal species were found, of which 31 belong to diatoms; Thalassiosira nordenskiöldii (90 percent of the biomass), T. gravida, Chaetoceros furcellatus, and some other diatoms, the most important species. The oceanic subzone is poor in phytoplankton; Chaetoceros concaviocornis f. volans and Rizosolenia hebetata are common boreal species. This study is based on materials collected by the Vitiaz' in May-June and Sept.-Oct. 1955; they are similar to collections of previous years and resemble phytoplankton of the Bering Sea.

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47900. SEMKO, R. S. Novye dannye o zapadnokamchatskoĭ sime. (Zoologicheskiĭ zhurnal, July 1956. t. 35, vyp. 7, p. 1017–1022, 7 tables.) 7 refs. Text in Russian. *Title tr.*: New data on the western Kamchatka "sima."

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Contains discussion on Oncorhynchus masu, closely related to the silver salmon (O. kisutch) and replacing it in southern Biological characteristics are given and tabulated data on age groups, length, growth rate, productivity, feeding and food content. The sima and kisutch share the same area in western Kamchatka waters; the former entering the rivers to spawn in summer, the latter in fall. A small sima population remains in rivers throughout life. They have peculiarly small males. The sima is not considered a good commercial species. Copy seen: DLC.

47901. SENAY, L. C., and others. Neuromuscular damage resulting from exposure of the hind legs of rats and hamsters to cold. (American journal of physical medicine. June 1956. v. 35, no. 3, p. 170-76, illus., tables.) 7 refs. Other authors: C. J. Imig, and H. M.

Hines.

In rats, following immersion of hind legs in 0° C. baths for three hours, muscle injury was found to be a result of motornerve damage. Motor nerve denervation alone produced similar changes, and limbs in such condition when exposed to cold showed no greater atrophy or loss of strength than unexposed denervated legs. Hamsters exposed to similar treatment showed no damage.

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47902. SENNING, ÅKE. Hypotermi vid hjärtkirurgi; fysiologiska, experimentella och kliniska synpunkter. (Nordisk medicin, 1956. bd. 56, nr. 36, p. 1268–71.) 50 refs. Text in Swedish. Summary in English. *Title tr.:* Hypothermia in heart surgery; physiological, experimental and clinical aspects.

Contains a review of the physiology of hypothermia especially of the cardiovascular system and blood; of experimental work especially on ventricular fibrillation; techniques and, application of hypothermia in surgery.

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SERB-SERBINA, N. N., see Savvina, ÎÛ., A., and N. N. Serb-Serbina. Vliûnie gidrokhloralûminatnykh soedineniï . . . 1950. No. 47813.

47903. SERGEANT, DAVID E. Whaling in Newfoundland and Labrador waters. (Norsk hvalfangst-tidende, Dec. 1953. Årg. 42, no. 12, p. 687-95, illus., map.) Text in Norwegian and English.

Contains historical notes on whaling in this area; introduction of modern Norwegian whaling (in 1893) and subsequent developments; pelagic whaling; developments after World War I; depression years and World War II; recent conditions, etc.

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47904. SERGEEV, A. V. Vitaminy A i C v moloke korov fsentral'nol Ākutii. (Akademifa nauk SSSR. Ākutskif filial, Yakutsk. Institut biologii. Trudy, 1955. vyp. 1, p. 172–77, tables.) 8 refs. Text in Russian. Title tr.: Vitamin A and C in the milk of cows in central Yakutia.

Investigation of monthly vitamin content during 1952 and 1953 showed a seasonal variation depending on variation in the feed. Race of animals and time of day had no effect. Keeping milk at —45° C. for two months or pasteurization or short boiling had no great effect on vitamin content. The investigations were conducted at the Lenin and Malenkov kolkhozes of Yakutsk and Megino-Kangalask districts. Copy seen: DLC.

47905. SERGEEV, M. Mark Konstantinovich Azadovskii. (Sibirskie ogni, Jan.-Feb. 1956. god 35, no. 1, p. 172-74.) Text in Russian. *Title tr.:* Mark K. Azadovskii.

Biography of this philologist and folklorist who died in Leningrad in 1955(?). His scientific work on the history, ethnography, linguistics and culture of Siberian peoples is stressed.

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47906. SERGEEV, MIKHAIL ALEK-SEEVICH. Sofsialisticheskoe stroitel'stvo u narodnostel severa Sibiri i Dal'nego Vostoka. (In: Akademiâ nauk SSSR. Institut étnografii. Narody Sibiri, 1956. p. 543-69.) 7 refs. Text in Russian. Title tr: Socialist construction among the peoples of northern Siberia and the Far East.

Sketches the cultural backwardness of the north Siberian natives before the Revolution, total economic collapse during the foreign intervention, and progress since Komitet Severa (Committee for the advancement of the small peoples of the North) was set up in 1924, for 27 ethnic groups, 26 in Siberia. The scientific expeditions, study of local economic factors, administration and financial measures are outlined, with discussion of the new cooperative trade organizations and kolkhozes (75 percent of all households were collectivized by 1939-1940), emancipation of women, etc. The changes and adaptation of local customs to new living conditions are described; transition from nomad to settled life, adoption of the Russian log cabin, izba (instead of, or as annex to, the old semimud house, furta) and portable iron stove, erection of bath-houses, gradual disappearance of old food taboos, introduction of cheap, store-bought Russian clothes and continued use of local clothing for severe weather activities. An innovation among Chukchis and Eskimos, cloth-lined fur bed-curtains equipped with windows and ventilation openings is noted (p. 565).

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SERGEEV, MIKHAIL ALEKSEEVICH see also Akademiâ nauk SSSR. Institut ėtnografii. Narody Sibiri . . . 1956. No. 43522.

SERGEEV, MIKHAIL ALEKSEEVICH, see also Ivanov, S. V., and M. A. Sergeev. Izobrazitel'noe iskusstvo . . . Sibiri. 1956. No. 45737.

SERGEEV, MIKHAIL ALEKSEEVICH, see also Popov, A. A. Nauchnyl trud o narodakh Severa. 1956. No. 47415.

47907. SERK, A. IŪ. Magnetitovye mestorozhdeniâ Imandrovskogo raIona. (In: Khibinskie apatity, 1933, t. 6, p. 180–89, illus., table.) Text in Russian. Title tr: Magnetite deposits of the Imandra region.

Exploration for iron ore is described in ten magnetite deposits of 353 million tons estimated capacity, containing 30-35 percent Fe. The ores require additional enrichment before introduction into the metallurgical industry. Structural geology is discussed in detail. Chemical analysis supplied in tables (p. 185, 187) show from 7.6 to 46.6 percent of Fe and concentrated ore of 66 percent Fe.

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SETCHELL, WILLIAM ALBERT 1864-1943, see Ball, C. R. Dr. Setchell . . . willows. 1940 No. 43851.

47908. SEVERIN, NIKOLAĬ ALEKS-ANDROVICH. Otechestvennye puteshestvenniki i issledovateli. Moskva, Gos. uchebno-pedag. izd-vo, 1956. 300 p. illus., ports. Text in Russian. *Title* tr: Our country's travelers and explorers.

Brief sketches are given of the lives and achievements of 25 Russian travelers, including the arctic explorers: V. Poßrkov, S. Dezhnev, V. Bering, A. Chirikov, V. Pronchishchev, Kh. and D. Laptev, S. Chelûskin, S. Krasheninnikov, G. Sedov, and A. Fersman. The last chapter "Outstanding geographic discoveries of the Soviet explorers" (p. 260-88) is a revised reprint of the pamphlet published in 1954 under the same title, by N. A. Gvozdetskif. Notes at end of volume.

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47909. SEVERINGHAUS, JOHN W., and M. A. STUPFEL. Augmentation de l'espace mort respiratoire anatomique chez le chien en hypothermie expérimentale. (Anesthésie et analgésie, Dec. 1955. t. 12, no. 5, p. 865-69, table.) 4 refs. Text in French. Summary in English. Title tr.: Increase of respiratory anatomical dead space in dogs under experimental hypothermia.

In animals under artificial respiration, cooled down to 25° C. with ice, this increase amounted to 89 percent when chloralosis was used as anesthetic, and to 66 percent when nembutal was applied. It is believed that this increase is due to inhibition of vagal tonus during hypothermia.

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47910. SEVERINGHAUS, JOHN W., and M. A. STUPFEL. Effects of hypothermia on pulmonary function. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 168.)

Account of observations on anesthetized, curarized and artificially ventilated dogs, made prior, during and after surface cooling to 22°-26° C. Dead space, blood and gas distribution, blood pH and gas tension, etc., were determined.

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47911. SEVERINGHAUS, JOHN W., and M. A. STUPFEL. Respiratory physiologic studies during hypothermia. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia. . . symposium, Oct. 1955, pub. 1956. p. 52–57, illus. tables.) 8 refs.

Following an analysis and re-calculation of certain physiological values in hypothermal respiration (O<sub>2</sub>- and CO<sub>2</sub>tension, pK¹), anatomic, physiologic, and alveolar dead space, and concommitant perimeters are investigated. It is concluded that hypothermia leads to increased anatomic dead space. No difficulty in elimination of CO<sub>2</sub> has been noticed. **Copy seen:** DLC.

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SEVERINGHAUS, JOHN W., see also Stupfel, M. A., and J. W. Severinghaus. Internal body temperature . . . anesthesia and hypothermia . . . 1956. No. 48238.

47912. SGIBNEV, ALEKSANDR. Bol'shoĭ Kamchatskiĭ nariâd; ekspedi siiâ El'china. (Morskoĭ sbornik, Dec. 1868. t. 99, no. 12, p. 131–39.) Text in Russian. Title tr.: The Great Kamchatka enterprise; Elchin's expedition.

Cossacks' discoveries and conquests at beginning of the 18th century drew attention of the Department for Siberian Affairs (Sibirskii Prikaz) to northeast Asia. A large, well equipped expedition was commissioned in 1716 with Colonel IAkov Alekseevich Elchin (El'chin) as head, to explore the area, including Kamchatka and Chukotka. By 1718, personnel and equipment were assembled in Yakutsk. Several advance parties were sent to the Kolyma and Anadyr' River mouths and to the Okhotsk seacoast, while the main expedition was to move to Okhotsk as its base for exploration. Lack of roads, inexperience of the leaders and rivalry of the local administration delayed progress, and Elchin was summoned to S. Petersburg. In his absence, the expedition became completely disorganized and in 1720 it was called off. A visit to Shantarskiye Islands by one of its parties was the sole and meagre result of this costly undertaking. Copy seen: DLC.

47913. SHAKHOVSKOĬ, V. Reportazh iz Tundry. (SovetskiI soûz, Jan. 1956. no. 1 (71), p. 28-29, illus.) Text in Russian. *Title tr.:* Reportage from Tundra.

Photographs with note on life at the reindeer-breeding kolkhoz "Tundra" in the Lovozero region, of Kola Peninsula: the two million hectare farm breeds reindeer, livestock and fur animals (silver fox and mink); grows vegetables; has electric light, schools, etc.

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SHALAGAĬ, E. I., see Alekseev, S. V., and E. I. Shalagaĭ. Nachalo vesny v severnoĭ taĭge. 1956. No. 43567.

SHAMARIN, A., see Vitkovskii, N. I. Otchet o raskopkie . . . 1882. No. 48769.

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47914. SHAMBAUGH, GEORGE. Temperature receptors, an annotated bibliography. Natick, Mass., Apr. 1956. 4, 55 p. Process print. (U. S. Army. Quartermaster Research & Development Command. Environmental Protection Research Division. Technical report EP-24.)

In four sections, dealing successively with temperature receptors in man, and in animals (references listed chronologically and briefly annotated); the effect of chemicals on temperature receptors (alphabetical listings, annotated); the fourth section is an alphabetical list of the above references cross-indexed, together with additional pertinent references; in all some 250 items are included covering the period 1840–1955. Copy seen: DNLM.

47915. SHAMOV, GRIGORII IVANO-VICH. Rechnye nanosy; rezhim, raschety i metody izmerenii. Leningrad. Gidrometeorologicheskoe izd-vo, 1954. 546 p. tables, graphs, maps, charts. 57 refs. Text in Russian. *Title tr.:* River deposits, processes and methods of measurement.

Textbook for hydrometeorological institutes, approved by Main Administration of Universities, Economics and Law Colleges of the Ministry of High Educa-

tion, U.S.S.R.

Formation and character of deposits and their granulometric composition are analyzed for various rivers in the U. S. S. R. including those of the North: the Ob', Yenisey, Lena and their tributaries. Distribution of average sedimentation and type of deposits along different rivers are mapped (figs. 7, 8, 31, 54) and their monthly averages tabulated (table 35–37). Various methods and bathometers for measuring suspended and bottom sediments, also other laboratory equipment are described (p. 270–332). Formulas and processes for computation of data are given (p. 332–43).

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47916. SHAMOV, GRIGORII IVANO-VICH. Stok vzveshennykh nanosov rek SSSR. Leningrad, Gidrometeorologicheskoe izd-vo, 1949. 119 p. diagrs, maps, tables. (Leningrad. Gos. Gidrologicheskii institut. Trudy, vyp. 20 (74)). 23 refs. Text in Russian. Title tr.: Run-off of suspended river deposits in the U. S. S. R.

Regional and seasonal variations in basic river characteristics are analyzed. A uniform method is applied, with consideration of physical and geographic factors, as essential for hydraulic-engineering projects and hydrometric services. Distribution of average turbidity in rivers of the European and Siberian (including arctic and subarctic) regions is plotted on fold. map (p. 16). Average monthly deposits and turbidities are graphed for rivers of various regions (p. 17-39). Catchment area, and annual data on discharge of transported deposits, water discharge and turbidity are tabulated (p. 45-70); and average monthly values are tabulated (p. 71-119). Included are rivers of the White and Barents Sea TSil'ma, Onega, (the Pizhma, Kem', etc.), of the Kara Sea basin (the Ob', Yenisey, etc.), Laptev Sea (Lena, Vitim, Aldan), basins of the East Siberian (Kolyma) and Okhotsk (Magadan) Seas, and rivers of Kamchatka Peninsula.

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47917. SHANKEY, LESLIE A. A preliminary evaluation of the weather at Fletcher's Island, T-3. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub.* 1956, p. 124.) cf. No. 42418.

Contains abstract of paper describing preliminary investigations of hourly weather reports, covering approximately one year, for indications of the annual and seasonal temperature, precipitation, and wind regimes of the central portion of the polar basin. The probability of west wind maxima aloft (jet streams) near the North Pole is discussed.

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47918. SHAN'KO, BORIS DMITRIE-VICH. Organizatsifa dal'nikh perekhodov krupnykh soedinenil malotonnazhnykh sudov. Moskva, Vodtransizdat, 1954. 312 p. illus., tables, diagr. Text in Russian. *Title tr.:* Organization of a large fleet of small tonnage ships for long trips.

The process of combining small fishing vessels into a specific fleet is described in detail. In addition to the regular fishing vessels, auxiliary ships are attached to the fleet to serve as tug, rescue, fuel, fresh-water and food supply, hospital, search, inter-communication, etc., ships. Signal codes for guidance in maneuvering a large number of ships are discussed (p. 47-149) and illus; specific types of

formations are shown. Methods of loading and towing in a heavy sea are described with illus. (p. 150–258, 279–309). Navigation of ships in formation through ice (drift and pack), in narrow waters, and heavy ship traffic, during a storm, and in heavy seas is described (p. 258–78) with suggestion of the best formation in each case.

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47919. SHANNON, RAYMOND CORBETT, 1894—, and I. D. DOBROSCKY. The North American bird parasites of the genus *Protocalliphora*; Calliphoridae, Diptera. (Washington Academy of Sciences. Journal, June 4, 1924. v. 14, no. 11, p. 247–53.)

Contains a discussion of this genus of flies which, in the larval stage, parasitizes nestling birds; keys to males and females, and descriptions of two new species, two new subspecies and five new varieties. P. splendida sialia n. var., occurring in Savonoski, Naknek Lake, Alaska, is included.

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SHANNON, RAYMOND CORBETT, 1894—, see also Dyar, H. G., and R. C. Shannon. The mosquitoes of Peary's ... expedition of 1908. 1925. No. 44694.

47920. SHAPLEY, ALAN HARLOW, 1919—. The ionosphere IGY programme in the Arctic. (CSAGI Arctic Conference..., pub. in: I. U. G. G. news letter, Sept. 1956. 5e anneé, no. 15, p. 382–84.)

Major emphasis in the program will be placed on determining ionospheric behavior in and near the auroral zone. The principal experiments will include vertical soundings from at least 37 stations in the arctic regions, absorption measurements, drift studies by different methods, and atmospheric noise measurements at about eight stations.

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47921. SHARP, ROBERT PHILLIP, 1911-. Glaciers in the Arctic. (Arctic 1956. v. 9, no. 1-2, p. 78-117, 4 illus., 2 fold. maps.) Approx. 200 refs. Also pub. in: U. S. Office of Naval Operations. The dynamic North. 1956. v. 1, no. 7 (OPNAV PO3-28).

Contains a compilation of literature and available data on arctic glaciers, originally prepared for Encyclopedia Arctica in 1949, and brought up to date. Ahlmann's morphological classification of glaciers is given, and the distribution, area, volume, and present regime of the glaciers is described. Regional treatment follows:

Greenland, Iceland, Jan Mayen, Svalbard, Novaya Zemlya, Zemlya Frantsa-Iosifa, Severnaya Zemlya, also other small Siberian islands, are considered in turn, and their glaciers characterized; similarly: Scandinavia, the Urals and continental Siberia, continental Canada and Alaska, also Ellesmere, Baffin and Bylot, Devon, Axel Heiberg, Meighen, and Melville Islands in the Canadian Arctic Archipelago.

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47922. SHARP, ROBERT PHILLIP, 1911— Last major advance of Malaspina Glacier, Alaska. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1782.)

Abstract of paper submitted for Society meeting in Reno, Nevada, Mar. 29–31, 1956. Trees growing in ablation debris on stagnant ice at the outer margin of this piedmont ice sheet (59°50′ N. 140° 30′ W.) and remnants of interglacial forests overridden by glacier fix date of culmination of the last advance at 200±50 yrs. ago. This was the most extensive advance in many hundreds, possibly thousands, of years. Copy seen: DGS.

47923. SHARP, ROBERT PHILLIP, 1911—
rocks of the central St. Elias Mountains, Yukon Territory, Canada. (American journal of science, Feb. 1956. v. 254, no. 2, p. 110-22, illus., text map, section.) 22 refs.

In summers 1948 and 1949 during glaciological work on upper Seward Glacier (Project Snow Cornice), observations were made of scattered bedrock exposures in the region 60°20'-30' N. 139°50′-140° W. Principal rocks are metamorphic and representive of the amphibolite facies of medium grade regional metamorphism. Four units are distinguished: biotite gneiss, schists, amphibolite and marble, igneous gneiss. All rocks are older than Lower Cretaceous. At the east end of the Mt. Logan massif are some early Lower Cretaceous graywacke, limestone, quartzite, and conglomerate beds. These and the metamorphic rocks are intruded by post-Lower Cretaceous quartz diorite bodies and lamprophyre dikes. Principal structural trends are noted. Copy seen: DGS.

47924. SHATALOV, E. T. Novye geologicheskie karty Sovetskogo Soûza. (Akademiîâ nauk SSSR. Vestnik, Oct. 1956. god. 26, no. 10, p. 28–34.) Text in Russian. Title tr.: New geological

maps of the Soviet Union.

Description and evaluation of four maps published by the All-Union Scien-Research Geological Institute (VSEGEI) in 1955 and 1956: two on the geology of the U.S.S.R., in scales 1: 2,500,000 and 1: 5,000,000; a geological map of the Siberian platform, 1: 5,000,000 and a tectonic map of the U.S.S.R. in scale 1: 5,000,000. Post-war progress in mapping (disappearance of "white spots," etc.) is noted. New aspects of the geology of arctic and subarctic areas (Chukotka, the Anabar River basin, Kola Peninsula), as reflected in the maps, are stressed. The Scientific Research Institute for Geology of the Arctic participated in the compilation of the maps.

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47925. SHATALOV, E. T. Vystuplenie zamestitelîâ ministra geologii i okhrany nedr SSSR E. T. Shatalova. (Akademiñ nauk SSSR. Laboratoriñ geologii ugliâ. Trudy, 1956. vyp. 5, Materialy vtorogo ugol'nogo geologicheskogo soveshchaniñ, p. 12–16.) Text in Russian. Title tr.: Address by E. T. Shatalov, Deputy Minister of Geology and Conservation of Mineral Resources of the U. S. S. R.

Outlines tasks of exploration of the coal resources of the U. S. S. R.; need is stressed (p. 14-15) to study coal-bearing areas in the Tungusskiy basin, where coal seams 70 m. thick have been found in the Kokuy mine. Copy seen: DLC.

47926. SHAUL'SKIĬ, F. I., Editor. Sukhoputnyī transport lesa. Moskva, Goslesbumizdat, 1951. 818 p. illus. graphs, diagrs. incl. fold. in pocket, also map. Refs. Text in Russian. Title tr.: Land transport of lumber.

A textbook for technical and agricultural forestry schools compiled by V. V. Buvert, B. D. Ionov, M. I. Kishin-

skil, and S. A. Syromatnikov.

Methods of timber transport are described and illus. in detail, and discussed in relation to topography and available mechanical power. Initial trailing and general transportation may represent 60–70% of the cost. Methods and mechanical equipment (including tractor trains) for hauling the logs from cutting site to loading or storage dumps are described by B. D. Ionov (p. 91–188).

Winter roads on snow, ice, or over marshland are dealt with by M. I. Kishinskii (p. 191-315): materials, permissible loads, character of wear, protection from drifting snow. Maintenance and operating equipment include: scrapers, graders, plow, water tanks and pumps on sleds, and sleds for heavy loads. Operational characteristics of transportation are mathematically analyzed for different permissible loads, strength of snow or ice roads, and composition of sled train (number of components). Roads, bridges and causeway construction over marshland is described in detail by B. D. Ionov (p. 435–59) with computation of stresses.

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47927. SHAW, DONALD A. Real cool landings. (Flying safety, Jan. 1956. v. 12, no. 1, p. 4–8, 10 illus.)

"Research undertaken since 1946 by various U. S. agencies on the use of ice for airfields is outlined, and the first test landings made on land and sea ice are reviewed. Landing rules and the method of selecting emergency landing spots are discussed. Sea-ice thickness can be estimated by low-flying airplanes by the height of the ice edge above water or the thickness of upended floes. Sea ice suitable for landing is found in the Canadian Arctic from Dec.-May. Greenland sea ice is treacherous but the icecap is ideal for landings. Good landing spots are found in Alaska only on the north and northwest coasts. The Arctic Ocean offers many landing facilities on floes throughout the year."-SIPRE.

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SHCHEGOLEV, V., see Andronnikov, M., & others. L'extrême-nord soviétique . . . 1955. No. 43668.

47928. SHCHERBAKOV, DMITRII IVANOVICH. Na samolete po Arktike. Leningrad, Gos. izd-vo detskol lit-ry, 1956. 144 p. illus., maps incl. fold. Text in Russian. Title tr.: Into the

Arctic by airplane.

In April-May 1954, the author, Secretary of Dept. of Geology and Geography of the Russian Academy of Sciences, accompanied the Chief of Main Administration of the Northern Sea Route, V. F. Burkhanov, on an inspection trip (fold. map) of the beginning of the High Latitude Expedition's work and the setting up of drifting stations North Pole-3 and -4. The party flew from Moscow, Apr. 26, via Amderma, Dikson and Franz Joseph Land to the vicinity of the North Pole and to the drifting stations North Pole-3 and -4; thence, along the north

Siberian coast to Cape Chelyuskin, drifting station North Pole-3, and returned over the North Pole and Dikson, to Moscow. In Aug. 1954 Shcherbakov made an air trip to Franz Joseph Land. Popular account is given of these flights, with added (p. 93–107) description of fauna of Franz Joseph Land and other arctic islands: polar bear, seal, walrus, birds; and chronicle of the conquest of North Pole, noting work of the Soviet High Latitude Expeditions and drifting stations in 1954 and 1955. Illus. show landscape, wildlife, polar stations, conditions of life and exploration in the visited places.

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47929. SHCHERBAKOV, DMITRIĬ IVANOVICH. Ot Arktiki do Antarktiki. (Nauka i zhizn', Jan. 1956. god 23, no. 1, p. 20, port.) Text in Russian. Title tr.: From the Arctic to the Antarctic. Notes author's investigations in the Arctic in 1955 and plans for 1956 in Arctic and Antarctic. His geological investigations in northeastern Asia, point to recent origin of the Arctic Basin.

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47930. SHCHERBAKOV, DMITRIĬ IVANOVICH. Raboty sovetskikh geologov. (Geografiîa v shkole, May-June 1956. no. 3, p. 60-61.) Text in Russian. Title tr.: Work of Soviet geologists.

Interview (reprinted from Krasnaîa Zvezda) on achievements in recent geological exploration of the U. S. S. R. Discovery of diamond-bearing fields and iron ores in Yakutia is mentioned.

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47931. SHCHERBAKOV, DMITRIĬ IVANOVICH. Sibir', zemlía chudesnaîa. (Ūnyī naturalist, Dec. 1956, no. 9, p. 20, illus.) Text in Russian. Title tr.: Siberia, the wonderful land.

Notes the natural wealth of Siberia and plans for development of mineral resources (coal, iron, rare metals) and water power for electrification of railroads, etc.

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SHCHERBAKOV, DMITRIĬ IVANO-VICH, see also Morozov, S. T. U poslednikh paralleleĭ...1956. No. 46853.

SHCHUKIN, I. S., see Obruchev, S. V. Spravochnik puteshestvennika . . . 1949–50. No. 47123.

47932. SHCHUROVSKIĬ, GRIGORIĬ. Ural'skiĭ khrebet v fiziko-geograficheskom, geognosticheskom i mineralogicheskom otnosheniâkh. Moskva. V Universitetskol tipografii, 1841. 438 p. fold. maps, diagrs, refs. Text in Russian. *Title tr.:* The Ural Range and its physical-geographic, geognostic and mineralogical importance.

Contains a physical and geographic description of the Ural Mts. including the northern part in the permafrost zone, extending to Novaya Zemlya. Flora and fauna are described; geologic structure is outlined with account of various minerals assemblages, magnetic iron and coal deposits. Periods of geologic formation are analyzed in relation to world geology and with consideration of faunal Distribution of mineral reremains. sources and mining are also dealt with. Appended are lists of rare plants and faunal remains. Copy seen: DLC.

47933. SHEDLING, F. Zashchita vintov. (Morskof flot, Feb. 1946. god 6, no. 2, p. 43–44, illus.) Text in Russian. *Title tr.:* Propeller protection.

Various types of protective arrangements against floating ice, wood, ropes and other obstacles are described with illus.

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SHEFOV, N. N., see Mironov, A. V., and N. N. Shefov. Nablûdenie spektra polârnogo siâniâ . . . 1956. No. 46777.

SHEKHTMAN, Â. L., see Radzievskil, G. B., and Â. L. Shekhtman. Obrazovanie kristallicheskogo l'da . . . 1956. No. 47500.

47934. SHELDON, JEROME F. Polar hops to aid Fairbanks? (United States Naval Institute, Annapolis, Md. Proceedings, Oct. 1956. v. 82, no. 10, p. 1127–28.)

Possibility of Scandinavian Airlines System making Fairbanks or Anchorage a regular stop on trans-polar flights is discussed, and its test stops noted. No American carrier is currently interested in an air route between Alaska and Europe.—From Christian Science Monitor, July 31, 1956. Copy seen: DLC.

47935. SHELUCHENKO, V. Prakticheskie priemy vymorozki sudov pri zimnem remonte. (Morskof flot, Nov.—Dec. 1945. god 5, no. 11–12, p. 23–25, diagr.) Text in Russian. *Title tr.:* Practical methods for winter repairs on a vessel frozen in.

A method of exposing the surface of the ship below the water line is described in detail. The ice around the vessel is removed layer by layer till the hull, rudder or propeller is exposed. A welded metal tank is also used to form an ice chamber attached to the ship below the water line. It is described in detail.

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47936. SHEMANO, IRVING, and M. NICKERSON. Effect of ambient temperature on thermal responses to drugs. (Federation proceedings, Mar. 1956. v.

15, no. 1, pt. 1, p. 482-83.)

Chlorpromazine, dinitrophenol, Hydergine, ergotamine, lysergic acid, diethylamide and serotonin were found to produce hypo- and/or hyperthermia at certain "critical" ambient temperatures. In addition to ambient temperature, interference with central temperature regulating mechanisms was found in many cases to affect these responses.

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47937. SHENITZ, HELEN A. Vestiges of old Russia in Alaska today. Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 249.) Ref. Abstract of paper pub. in Russian review Jan. 1955. v. 14, no. 1, p. 55-59 (Copy in DLC.)

Culture elements introduced by Russian peasants have been maintained by Aleuts and by Eskimos around Bristol Bay. Russian terms, ritual of Russian Orthodox Church, and various ethnographic traits can be recognized. Natives who call themselves "Russian" are descendants of mixed Russian-native marriages, but have no interest in old Russia or in the Soviet Union.

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47938. SHEPARD, BEATRICE Studies in bacterial population of frozen foods, a preliminary report. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 211-16.)

Report on the Alaska Dept. of Health Chemistry Laboratory studies of vitamin C content in locally grown and imported foods and in local wild plants; vitamin C content in frozen foods, their allowable bacterial counts; role of cooking and Copy seen: DGS. dietary value.

SHEPELEVSKII, A. A., see Veinberg, B. P., and others. Rost . . . ledanogo pokrova. 1940. No. 48717.

SHEPHERD, J. H., see Moorhouse, M. D., and J. H. Shepherd. Geology . California Lake area . . . 1954. 46836.

SHEREMETEV, G. V., see Alyshev, M. IA., and G. V. Sheremetev. Perspektivy élektrosnabzhenifa sel'skogo khozfalstva. 1956. No. 43605.

47939. SHERESHEVSKIĬ, ĖDMUND IOSIFOVICH. Plemennasa rabota s laikami v opytnom pitomnike okhotnich'epromyslovykh sobak VNIO. nalizatsifa okhotnich'ego promysla, 1956, vyp. 5, p. 129-37, illus., fig.) Text in Russian. Title tr.: Breeding work with the Siberian sled dog in the experimental hunting-dog-breeding farm of the All-Union Scientific Research Institute of Hunting.

Account of controlled breeding of two families of dogs from parents taken in the taiga region and the Khanty-Mansiysk National District. This work started in 1944. Copy seen: DLC.

47940. SHERESHEVSKIĬ, EDMUND IOSIFOVICH., and P. A. PETRÍAEV. Spravochnik okhotnika-polfarnika. Moskva-Leningrad, Izd-vo Glavsevmorputi, 1949. 316 p. illus., tables. Over 150 refs. Text in Russian. Title tr.: Handbook of the arctic hunter.

Presents a collection of information useful to the hunter, trapper or fur trader in northern U. S. S. R. The 12 chapters deal in turn with: arctic hunting and trapping (p. 5-13); fur trade (p. 14-80); the wild reindeer and its hunting (p. 81-90); the skins of arctic fur animals (p. 91-113); hunting sea mammals (p. 114-47); arctic game birds and their capture (p. 148-80); various trades (p. 181-200); study of commercial animals (p. 201-217); dog driving (p. 218-39); reindeer driving (p. 240-59); equipment and weapons of the arctic hunter (p. 260-82); local food and forage resources (p. 283-307). Chapters 2, 3, 5, 8, 9, 11 are by Shereshevskil; 1, 4, 7, 10, 12 by Petraev; and chapter six was contributed by P. P. Smolin. Literature references are included as relevant.

In the course of the handbook, the main arctic animals and birds of economic importance are described as to their distribution, habits, reproduction, food, enemies, etc. Methods and means of hunting or trapping them, skinning, dressing, utilization of meat, etc., are explained; also their capture alive for zoological gardens. Among the wildlife dealt with are the arctic fox (p. 15-49 and 91-103), ermine, weasel, fox, snow hare, marmot (Marmota camtschatica Pall.), suslik (Citellus eversmanni Brundt), wolf, wol-

verine, and polar bear (p. 64-78 and 110-13); the wild reindeer (p. 81-90). Several species of seals are covered: Phoca hispida, P. vitulina, Histriophoca fasciata, H. groenlandica (p. 114-24), also bearded seal, walrus, beluga, etc. Game birds, dealt with by Smolin, include the ptarmigan (p. 156-60), geese, ducks, swans (p. 170-71), eider, auk, loon, snipe, gulls, etc. Supplementary feeding of the wild arctic fox in areas of its occurrence is prescribed and instructions are given (p. 201-217) on the observation and recording of useful data on wildlife. Problems of transportation in the Arctic are dealt with (p. 218-59) and breeds of sled dogs, the harness, hitches, and sleds, are described and illustrated; the use of dogs for pulling river boats and for carrying loads is included. The seasonal migration of reindeer is discussed, the training of both reindeer and drivers is explained, and the harness and sleds are described. Winter and summer clothing for hunters is discussed, their sleeping bags, tools, snow goggles, weapons, etc., the huts, tents, construction of snowhouses are explained and diagrammed. Advice is given on food, the preservation of meat and fish, reindeer milk, birds' eggs, and mushrooms, dietary needs, cookery, etc. Feed and requirements for dogs (including pemmican) and reindeer are tabulated and discussed (p. 304-308). The local Russian names of the main fur bearers and sea mammals are given (p. 79 and 146) together with the Nentsy (Samoyed), Yakut and Chukchi names. The collecting of mammoth and walrus ivory is mentioned (p. 194-95). pended (p. 308-316) is a hunters' calender, Russian and Latin names of 21 main fur animals and 118 arctic birds, with tabulated data on the birds' occurrence on Russian arctic mainland and islands. Copy seen: DLC.

47941. SHERROD, JOHN, 1924—. A review of the first 10,000 abstracts prepared by the SIPRE Bibliography Project. (In: Western Snow Conference. Proceedings, 23d annual meeting, Portland, Ore., Apr. 13–15, 1955. p. 2–3, table.)

States scope and progress of the U. S. Army Corps of Engineers Snow Ice Permafrost Research Establishment abstracting project carried out at the Library of Congress. Publication date and language distribution of material abstracted is tabulated. Ninety percent is in Eng-

lish, Russian, or German; ten percent in one of 18 other languages. Eighty-six percent of the material abstracted was published in and from 1930; 15 percent of the abstracting done now, is of papers published in the current year.

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SHERROD, JOHN, 1924—, see also U. S. Library of Congress, Technical Information Division. Bibliography... snow, ice and permafrost. 1956. No. 48618.

47942. SHEVCHENKO, M. I. Rezul'taty poiskovykh i razvedochnykh rabot v vostochnol chasti apatito-nefelinovof dugi Khibinskikh tundr. (In: Khibinskie apatity, 1933. t. 6, p. 35–36.) Text in Russian. Title tr.: Results of searching and prospecting work in the eastern part of the apatite-nepheline arch in the Khibiny.

Eastern Rasvumchorr, Suoluayv and N'orkpakhk regions were investigated in 1933 for apatite deposits and related inlite-urtite rocks of industrial significance. A deposit of dense urtites was discovered in the Koashva plateau with vein estimated at 1.5 km. long, 20 m. thick and 100 m. deep. Deposit of iolite-urtite rocks of granite-porphyric structure (2 km. long and 150 m. thick) was found on the northeast slope of the Rasvumchorr. Work was continued on the southern and eastern slopes of the N'orkpakhk. Copy seen: DGS.

47943. SHEVKO, E. I. Vetrodvigateli. Kiev, Gos. nauchno-tekhnicheskoe izd-vo mashinostroitel'nol literatury. Ukrainskoe otdelenie, 1955. 115 p. diagrs., tables. 10 refs. Text in Russian. Title tr.: Wind-driven motors.

Theory and classification of wind motors are briefly outlined in respect to size, speed, and relative position of the wind motor. Construction details of various installations (UTV-5, TV-8, D-5, D-12 and D-15) are given, with marked dimensions for major parts. Special instructions are outlined for assembly, repair and servicing of those installations under normal and adverse weather conditions, including de-icing and lubrication in low winter temperatures by lubricants diluted with kerosene.

Copy seen: DLC.

SHIKLOSH, T., see Kondorskii, E. I., and others. K teorii spontannoi namagnichennosti . . . 1958. No. 46061.

SHIL'NIKOV, V. A., see Vostrov, A. I., and V. A. Shil'nikov. Ob ustoĭchivosti graviĭnykh osnovaniĭ . . . 1956. No. 48820.

47944. SHILO, A. Ondatra i vodoplavafishchie ptifsy. (Okhota i okhotnich'e khozfalstvo, Oct. 1956, no. 10, pp. 23–24, illus.) Text in Russian. *Title* tr.: Muskrat and waterfowl.

Refutes opinion voiced by many hunters that the muskrat destroys the eggs and makes waterfowl breeding impossible. Observation of wildlife and experiments with attitude of muskrat toward ducks, gulls and other waterfowl show their peaceful coexistence. Copy seen: DLC.

47945. SHIMANĪŪK, ANDREĬ PETRO-VICH. Vozobnovlenie lesa na konfsentrirovannykh vyrubkakh v sosnovykh lesakh taezhnof zony Evropeľskoľ chasti SSSR. Moskva, Goslesbumizdat, 1956. 88 p. illus., tables. 41 refs. Text in Russian. Title tr.: Reforestation on concentrated cuttings in pine forests of the taiga zone in the European part of U. S. S. R.

The coniferous forests and climatic conditions of the northern taiga from Kola Peninsula to the Northern Ural are characterized. Maritime and continental arctic air movements are discussed in relation to the snowfall and duration of snow cover, and their influence upon the growth of typical species: Picea fennica Rgl., P. excelsa Link, Pinus silvestris L., Larix sukaczewii Djil. and others. Conditions for growth are considered in relation to the various (northern, central and southern) taiga zones. Systematic cutting for natural seeding in the northern zone is described in detail, with attention to a variety of soil conditions. growth of young pine and birch is affected by the character of the ground cover and vegetation: swamp moss, heath, red bilberry, lichens, sphagna, etc.

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SHIMANOVSKIĬ, S. V., see Akademiía nauk SSSR. Institut geografii. Voprosy izucheniîa snega... 1955. No. 43525.

SHIMANSKIĬ, V., see Rakovskiĭ, V. E., and others. K voprosu o genezise tverdykh topliv. 1954. No. 47506.

SHIMIZU, HIROSHI, see Ishida, T., and H. Shimizu. Determination . . . air flow resistance through snow . . . 1955. No. 45724.

SHIMKO, N. I., see Leningrad. Arkticheskiï nauchno-issledovateľ skiľ institut. Tablitsy . . . aérologicheskikh nabliūdeniï. 1944. No. 46309.

SHINKAREVA, T. A., see Kurbatova-Belikova, N. M., and T. A. Shinkareva. Izmenenie mikroflory frezernogo torfa . . . s ego samorazogrevaniem. 1953. No. 46169.

SHINKAREVA, T. A., see also Kurbatova-Belikova, N. M., and T. A. Shinkareva. Mikrobiologicheskiĭ metod opredeleniâ sklonnosti torfov k samorazogrevaniû. 1953. No. 46170.

47946. SHIPAEV, V. M. O vnutrizonal'nykh klimaticheskikh granifsakh na territorii SSSR. (Meteorologiâ i gidrologiâ, May 1956, no. 5, p. 8–18, map.) 19 refs. Text in Russian. *Title tr.:* Intra-zonal climatic boundaries in the territory of the U. S. S. R.

Variations in climatic characteristics within the U.S.S.R. are discussed and the entire country divided into climatic zones, sectors, districts, and regions, according to physical and geographic con-The main climatic zones (as mapped) are: arctic, sub-arctic, temperate, and sub-tropical. The arctic zone is subdivided as a central and a borderland district, the latter in three regions: Atlantic, Siberian, and Pacific. The subarctic and temperate zones have overlapping areas, particularly for continental climate, which include: Yenisey, Lena, Yakut, Yana, Kolyma and other regions. Each region's climatic characteristics are noted in turn. Copy seen: DLC.

47947. SHIPPING REGISTER AND SHIPBUILDER. Aluminum tower for (Shipping register and ship-Arctic. builder, Oct. 1956. v. 39, no. 10, p. 22, 26.) A 100-ft. meteorological tower for Resolute weather station on Cornwallis Island is described. It will contain wind, temperature, and humidity instruments at various levels. The study is part of the contribution of the Canadian Dept. of Transport Meteorological Service to the International Geophysical Year and is aimed primarily at solving the problem of the heat budget in the Arctic. Other Canadian contributions to the IGY. are Copy seen: DLC. mentioned.

47948. SHIPPING REGISTER AND SHIPBUILDER. Plans for arctic waters operations. (Shipping register and shipbuilder, Feb. 1956. v. 39, no. 2, p. 15, illus.)

Contains group photograph and list of captains of the Canadian Dept. of Transport's fleet of ice-breakers and service vessels operating in arctic waters. They met in Ottawa, Jan. 9-10, 1956, to plan operations during the 1956 navigation season.

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47949. SHIPPING REGISTER AND SHIPBUILDER. Royal Canadian Navy helicopters in arctic operations. (Shipping register and shipbuilder, Jan. 1956. v. 39, no. 1, p. 6–7, 4 illus.)

The work of the three helicopters assigned shipboard duty during the 1955 arctic operations of the Canadian ice-breaker Labrador is described briefly. The aircraft were used mainly for ice reconnaissance and survey work but proved their versatility by aiding in navigation, in ship-to-shore transportation of men and supplies, also in an air rescue.

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47950. SHIRSHOV, PETR PETRO-VICH, 1905- . Scientific result of the drift of station North Pole. Nauchnye rezul'taty drelfa stantsii "Severnyl polius." Akademifa nauk SSSR. Obshchee sobranie, Feb. 1944, pp. 110-140. Cambridge, Mass., American Meteorological Society, Feb. 1956. 51 p. 5 text maps, graphs, profiles. Mimeographed. English translation, by David Kraus, of No. 15932, done for the Geophysics Research Directorate, Air Force Cambridge Research Center under Contract AF 19 (604)-1364.

Basic results of three related Soviet expeditions in the central basin (drifting station North Pole-1, 1937-38, the Sedow drift 1937-40, and Libin's work on the N-169) are summarized in perspective of earlier work, especially Nansen's. Bathymetry, water masses and their general characteristics, the surface and intermediate water, seasonal changes of temperature and salinity, surface current, distribution of Atlantic water, deep water and the problem of its origin, are treated in turn.

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47951. SHISHKIN, ALEKSANDR ALEKSANDROVICH. Osobennosti stroitel'stva iz krupnykh kirpichnykh blokov v zimnikh uslovi@kh. (Stroitel'na@a promyshlennost', Jan. 1956. t. 34, no. 1, p. 12-15, illus., diagr., tables.) Text in Russian. Title tr.: Special construction

with large brick-blocks under winter conditions.

Winter building with bricks pre-laid in large blocks (1.30 x .51 x .90 m.) is described. The blocks can be prepared in heated sheds or in the open with a freezing method. Both ways were investigated in the laboratory before practical application, and the results are presented for range of temperatures between  $0^{\circ}$  and  $-22^{\circ}$  C., also for both careful and rough handling. The investigation also indicates that the frozen brick block, as frozen concrete, the ground itself, etc., possesses valuable physical and mechanical properties: high degree of strength, monolithic character and shock resistance. In assembling the frozen blocks, precautions should be taken against their sagging during thaw (at about 1 mm./m. height) to prevent loss of strength and stability in the walls.

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47952. SHISHKIN, ALEKSANDR ALEKSANDROVICH. Vliūnie usloviī nachal'nogo promerzaniū zimneī kladki na ee fiziko-mekhanieheskie svolstva. (Stroitel'naū promyshlennost', Sept. 1956. god 34, no. 9, p. 23–27, illus., table, graphs.) Text in Russian. Title tr.: The effect of initial freezing of winter masonry upon its physical and mechanical properties.

The study of frozen mortar in the masonry work conducted in the Laboratory of Institute of Permafrostology is described with illus. and curves. results are analyzed with mathematical formulation of the relation between masonry strength and temperature. The significance of the initial freezing is considered in regard to evaluation of expected strength of construction after thawing. With initial freezing at the temperature -22° C., the force causing deformation was found about 21 percent of that corresponding to summer conditions; at the temperature -10° C. the force was about 67 percent and at -1° C. was about 123 percent. The magnitude of masonry deformation in very cold weather, considerably affects the plastering, facing and other covering Formation of ice entrapped work. between the bricks and mortar lowers the adhesion of these materials at thawing, especially after initial freezing at low temperature. These characteristics must be specially considered for construction in seismic regions. Copy seen: DLC. SHISHO, G. A., see Kurinnyl, T. G., and others. Naturnye obsledovaniîa "kholodnogo" betona. 1956. No. 46174.

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47953. SHISTKO, A. U Korîakskot sopki. (Fizkul'tura i sport, [Oct.] 1956. god 26, no. 10, p. 11, illus.) Text in Russian. *Title tr.:* At Koryakskaya Sopka.

Notes a Kamchatka school sports competition in Aug. 1956 at Yelizovo (approx. 53°10′ N. 158°20′ E.) in the vicinity of Koryakskaya Sopka.

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47954. SHLÎAKOV, R. N. O kriteriâkh vida u listostebel'nykh mkhov. (Botanicheskiî zhurnal, Oct. 1956. t. 41, no. 10, p. 1459-69, 2 illus.) 35 refs. Text in Russian. *Title tr.:* On the criteria-of-species concept in mosses.

The three most important conditions for the separation of a species are: certain stable morphological and anatomical characteristics; no intermediate forms of non-hybrid origin; and specific ecological characters and a definite area of distribu-Certain mosses now considered as varieties should be given species status. Among examples cited are: Polytrichum septentrionale (= P. alpinum var. septentrionale), occurring in Khibiny Tundra of Kola Peninsula; Oncophorus compactus n. comb. (= Dicranum wirens var. compactum) known from northwestern Scandinavia, Kola Peninsula, Novaya Zemlya, Alaska and Greenland; and Isopterygium nitidum n. comb. (= I. pulchellum var. nitidulum) from Kola Peninsula and the Yenisey Basin. Copy seen: DLC.

47955. SHLĀKOV, R. N. Vazhnelshie dikorastushchie poleznye rasteniiā Murmanskof oblasti. Moskva-Leningrad, Izd-vo Akademii nauk SSSR, 1956. 115 p. illus. (Akademiā nauk SSSR. Kol'skii filial. Poliārno-al'piiskii botanicheskii sad.) 11 refs. Text in Russian. Title tr.: Important useful wild plants of Murmansk Province. Editor, N. A. Avrorin.

A popular booklet on wild plants utilized, or usable, for feed or food; in medicine or as vitamin sources; as timber and paper pulp; in tanning; dyeing; and as sources of honey. The significance and value of each group is discussed; the individual species with their Latin names are listed, and their use explained. Some 120 species in all are dealt with.

They are indexed according to their use, common Russian and scientific names. **Copy seen:** DLC.

SHMAKOV, E., see Savin, A., and E. Shmakov. Daleko na Pivnochi. 1956. No. 47811.

47956. SHMATOK, I. D. Vlifanie prodolzhitel'nosti dnía v políarnykh usloviákh na soderzhanie uglevodov i mineral'nykh veshehestv u zheltoľ akaťsii i obyknovennoľ sireni. (Akademiía nauk SSSR. Doklady, Nov. 1, 1956. t. 111, no. 1, p. 213–16, illus., 3 tables.) 9 refs. Text in Russian. Title tr.: The carbohydrate and mineral substance content in Caragana arborescens and Syringa vulgaris, as affected by day-length.

Reports results from study of the influence of length of photo-period (long and short days) on the development of seedlings of the Siberian pea-tree (Caragana) and lilae; it was carried out in the Polar alpine Botanical Garden in Murman province (67°37' N.). The dry weight of both species is smaller on short days (table 1). All parts of both plants have more nitrogen, phosphorus and potassium, but less calcium on short than long days. Marked decrease of carbohydrates was found in the leaves of seedlings, but stems and roots accumulate larger amounts on short than on long days. Copy seen: DLC.

47957. SHMIDT, A. V. Drevnii mogil'nik na Kol'skom zalive. (Akademia nauk SSSR. Komissia ėkspeditsionnykh issledovanii. Materialy, 1930. vyp. 23, seria severnaa, Kol'skii sbornik, p. 119-69, illus., diagrs., plans, map.) 32 refs. Text in Russian. Title tr.: An ancient burial site on Kola Peninsula. Previously listed as No. 15948.

Describes the archeological finds of the summer 1928 Kola expedition of the Academy of Sciences U. S. S. R. Its five-man paleontological section, headed by D. A. Zolotarev and including the author, excavated eleven late "arctic neolithic" burials on Bol'shoy Oleniy Ostrov (63°13' N. 33°29' E.). The island's fauna, flora and geology are described. The skeletal remains and artifacts discussed include bone and stone knives, harpoons and throwingsticks, fishhooks, arrow heads, scrapers, ornaments, etc. Only one (imported?) bronze or copper arrow head and a few potsherds were unearthed. The finds are compared with those from the 1907–1908 excavations of O. Solberg on Kjelmøy Island (No. 32172) and a dating of 500–1000 B. C. is suggested. Similarities are noted between these and the proto-Eskimoan cultures discovered in eastern Asia, northern America and Greenland. N. N. Gurina (q. v.) later utilized Shmidt's work.

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47958. SHMIDT, N. A. Étnograficheskie nablûdenifâ. (*In:* Obruchev, S. V. Spravochnik puteshestvennika, t. 2, 1950, p. 593–612, illus.) 27 refs. Text in Russian. *Title tr.:* Ethnographic observations.

Contains program and instructions for investigation of peoples of the U. S. S. R.: methods of work, recording, collecting, etc.; study of the material culture, social life, art and beliefs. Objectives peculiar to study of the northern peoples are noted: penetration of agriculture, dog and reindeer breeding, bone carving, etc. List of 25 Russian ethnographic bibliographies is appended. Copy seen: DLC.

47959. SHMIDT, OTTO ÎUL'EVICH, 1891–1956. The expedition to the Pole. "Ékspedifsifs SSSR na Severny' Polfûs." Trudy dreiffuûshchel stantsii "Severny' Polfûs". . . 1940, v. 1, pp. 7–19. 22 p. Mimeographed. English translation of No. 15956. Copy seen: CaMAI.

47960. SHMIDT, PETR TUL'EVICH, 1872–1949. On the systematics and distribution of the genus Agonus Bloch and Schneider. (Copeia, May 10, 1936, no. 1, p. 58–59.)

Contains a discussion of taxonomy and relationship of three closely related fish genera, Agonus, Leptagonus and Podothecus which are united by the author, thus restoring the old genus Agonus, in the broad sense. A. acipenserinus described from Unalaska, and A. gilberti widely distributed in Okhotsk Sea, are included.

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47961. SHMIDT, PETR TUL'EVICH, 1872-1949. A revision of the cottoid fishes of the genus Artediellus. (U. S. National Museum. Proceedings, July 12, 1927. v. 71, art. 13, no. 2685, p. 1-10.)

Contains keys to the species of this genus and an annotated list of ten, with description of A. scaber beringianus n. subsp. (Tkachen Bay, Bering Sea); also synonyms, critical notes and distributional data on others native to arctic seas, Bering and Okhotsk Seas and Greenland waters. Copy seen: DLC.

SHNAKENBURG, N. B., d. 1942?, see Antropova, V. V. Korfaki. 1956. No. 43703.

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SHNAKENBURG, N. B., d. 1942?, see also Menovshchikov, G. A. Eskimosy. 1956. No. 46712.

47962. SHOEMAKER, CLARENCE RAYMOND, 1874-1958. The amphipod genus *Corophium* on the east coast of America. (Biological Society of Washington. Proceedings, Feb. 9, 1934. v. 47, p. 23-31.)

Contains list of ten species, three described as new. C. crassicorne collected by W. H. Dall on Attu Island, and C. pseudacherusicum from Alaska are included. Supplemented by No. 47964.

Copy seen: DLC.

47963. SHOEMAKER, CLARENCE RAYMOND, 1874-1958. The amphipod genus *Corophium* on the west coast of America. (Washington Academy of Sciences. Journal, Feb. 15, 1949. v. 39, no. 2, p. 66-82, 8 illus.)

Contains a synopsis of the genus and descriptions of 13 species, five new. C. brevis (Stephens Passage, Alaska), C. clarencense (Port Clarence, Alaska), n. spp. and four other species, recorded in Bering Sea and Aleutian waters, are included.

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47964. SHOEMAKER, CLARENCE RAYMOND, 1874-1958. Further notes on the amphipod genus Corophium from the east coast of America. (Washington Academy of Sciences. Journal, Feb. 15, 1947. v. 37, no. 2, p. 47-63, 12 illus.)

Contains a synopsis of this genus, illustrations and descriptions of 12 species. C. acherusicum ranging from Baffin Bay to Brazil on the east coast and from Alaska to Monterey, on the west coast of America, is included. This paper is supplementary to No. 47962.

Copy seen: DLC.

47965. SHOEMAKER, CLARENCE RAYMOND, 1874–1958. Notes on the amphipods Eurythenes gryllus (Lichtenstein) and Katius obesus Chevreux. (Biological Society of Washington. Proceedings, Dec. 31, 1956. v. 69, p. 177–78.)

Contains critical revision of these closely allied amphipods, recognized as two distinct species of the genus Eurythenes. Both species were taken at Tromsø, Norway. E. gryllus was also recorded by J. Murdock in 1885, during the International Polar Year Expedition

to Point Barrow, Alaska. These specimens have been examined and found to be Anonyx nugax. Copy seen: DA.

47966. SHOEMAKER, CLARENCE RAYMOND, 1874–1958. The stegocephalid and ampeliscid amphipod crustaceans of Newfoundland, Nova Scotia and New Brunswick in the United States National Museum. (U. S. National Museum. Proceedings, Oct. 16, 1931. v. 79, art. 22, no. 2888, p. 1–18, 6 illus.) Includes at least five species extending to Labrador Sea and West Greenland waters.

Copy seen: DLC.

47967. SHOEMAKER, CLARENCE RAYMOND, 1874–1958. Three new species of amphipod genus Ampithoe from the west coast of America. (Washington Academy of Sciences. Journal, Jan. 15, 1938. v. 28, no. 1, p. 15–25, 4 illus.)

Includes descriptions of A. dalli and A. rubricatoides n. spp. native to Bering Sea and Aleutian waters.

Copy seen: DLC.

47968. SHTABOVA, A. I. Osnovnye tipy sinopticheskikh professov DVK i ikh povtoraemost'. (In: Khromov, S. P. Sinopticheskie professy Dal'nego Vostoka, 1940. p. 179–97, 16 maps.) Text in Russian. Title tr.: Basic types of synoptic situations in the Far Eastern region and their recurrence.

Contains description of typical synoptic processes divided into western, northern, eastern and southern types. The western type is characterized by latitudinal expansion of the baric fields and by western direction of air currents; the northern, by meridional shift of air masses. Basic cyclonic fields are located in the basin of the Yenisey and also on the Bering and Okhotsk Seas. The eastern type generally is a summer process. The southern type is related to movements of continental air masses from the south.

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47969. SHTABOVA, A. I. Sinopticheskafâ kharakteristika fevralfâ-apreliâ po linii Aleksandrovsk-Petropavlovsk. (In: Khromov, S. P. Sinopticheskie profsessy Dal'nego Vostoka, 1940. p. 283–304, 19 maps.) Text in Russian. Title tr.: Synoptic characteristic in February—April on the line between Aleksandrovsk-Petropavlovsk.

Synoptic data recorded during 1932– 35 are studied and plotted with indication of the movements of cyclones and anticyclones on charts for February, March and April. The general trend of the movements of cyclones is indicated from west to east or to the northeast, and of the anticyclones from polar regions through Yakutsk to the Sea of Okhotsk. Numerous paths are analyzed and separated into three groups for indication of the degree of recurrence or general trend of the predominant movements for each month.

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47970. SHTABOVA, A. I. Sinopticheskie protsessy (osi) kholodnogo polugodifa na Dal'nem Vostoke. (In: Khromov, S. P. Sinopticheskie protsessy Dal'nego Vostoka, 1940. p. 198–226, 22 maps.) Text in Russian. Title tr.: Synoptic processes (axes) of the cold half-year in the Far East.

Meteorological data are analyzed to develop general conclusions and a practical method for long-range forecasting. The origin and behavior (direction and intensity) of the anticyclones is studied as a controlling factor for weather Two basic groups of anticychanges. clones are discussed in reference to place of their formation: arctic anticyclones originated in the Arctic Basin area; and continental anticyclones moving from the The arctic group has: Taymyr, Novosibirsk, Yakutsk ultrapolar axes. The continental group has: mid-Asiatic, Altay, and Mongolian axes.

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47971. SHTABOVA, A.I. Sinopticheskie usloviiâ vtorzheniiâ arkticheskikh mass vozdukha na Dal'nii Vostok. (In: Khromov, S. P. Sinopticheskie professy Dal'nego Vostoka, 1940. p. 227–82, 40 maps, 6 graphs.) 9 refs. Text in Russian. Title tr.: Synoptic conditions for the invasion of arctic air masses into the Far East.

The invasion of arctic air is analyzed with respect to seasonal changes. Circulation of air and atmospheric processes are characterized either by zonal or trade wind circulation or by monsoon circulation. The Far East is divided into four regions: polar or arctic, mid-Asiatic, Mongolian, and the Sea of Okhotsk. Recorded data on the direction of the invasion for the same month over nine years (1927-35) are plotted on eight maps for different months. The movements of arctic air, indicated by 20 to 35 curves on each map, are directed from the polar region to the Japanese Islands during all months. The invasion of aretie air is grouped into five types: northwestern continental, northeastern continental, northern continental; northwestern maritime, and northeastern maritime. **Copy seen:** DLC.

47972. SHTAKEL'BERG, ALEKSANDR ALEKSANDROVICH. Novye dannye po sistematike palearktieheskikh vidov Sphegina Mg. (Diptera, Syrphidae), I. (Entomologicheskoe obozrenie, 1956. t. 35, no. 3, p. 706–715, 3 illus.) Text in Russian and German. Title tr.: New data on the systematics of palearetic species of Sphegina Mg. (Diptera, Syrphidae), I.

Contains tables (Russian and German) for the determination of the species of this genus. S. spheginea, occurring in Kamchatka, is included.

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47973. SHTAKEL'BERG, ALEKSANDR ALEKSANDROVICH. Sinantropnye dvukrylye fauny SSSR. Moskva-Leningrad, Izd-vo Akad. nauk SSSR, 1956. 163 p. 97 illus. (Akademiâ nauk SSSR. Zoologicheskii institut. Opred. po faune SSSR, no. 60.) 27 refs. Text in Russian. Title tr.: Domestic dipters of the U. S. S. R.

Contains a morphological sketch of domestic flies, notes on methods of collecting, determination and investigation, also tables for determination of families (imagines), and for separation of species (adult phase). Some 40 of the most important species are described, with data on their mode of life, ecology and importance as carriers of various diseases and on their damage to man, domestic animals, and food. Some species, native to northern regions of the U. S. S. R. are included.

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47974. SHTEMPEL', B. M. Predstaviteli flory verkhnego karbona na Okhotskom poberezh'e. (Botanicheskiĭ zhurnal, May 1956. t. 41, no. 5, p. 696–702, 6 illus.) 30 refs. Text in Russian. Title tr.: Representatives of the upper Carboniferous flora on the coast of the Okhotsk Sea.

Study of upper Paleozoic flora in the Far East and Okhotsk region is reviewed historically. Descriptions are given of Angaropteridium cardiopteroides and two undetermined species of the genus Samaropsis, based on imprints on dark schists collected by A. A. Leontovich in 1908, in the Ayan Peninsula. The

geological age of the outcrops is considered upper Carboniferous.

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SHTEPA, V. S., see Tikhomirov, B. A., and V. S. Shtepa. K kharakteristike lesnykh forpostov . . . 1956. No. 48398.

47975. SHTOKMAN, V. B. Vliânie poperechnol neravnomernosti drelfa l'dov na gorizontal'nuû fsirkulfâfsiû v more. (Meteorologiâ i gidrologiâ, Feb. 1953, no. 2, p. 20–24, diagr.) 5 refs. Text in Russian. Title tr.: Influence of transverse irregularities in ice drift on horizontal circulation in sea water.

Ice drift near shore and in open sea under the influence of wind is analyzed, and its effects on surface and deep sea currents are discussed. Irregularities in drift of ice are traced to variable winds and to friction between ice and shore, between ice and land floes, and between individual ice fields exposed to varying wind velocities. The discussion indicates that variable influence of the Atlantic current on movements in the Arctic Basin is also affected by variation of atmospheric circulation above the Basin.—From SIPRE.

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SHTURM, V. A., see Troshina, V. P., and V. A. Shturm. Defstvie nizkikh temperatur . . . 1956. No. 48477.

47976. SHUBIN, I. Okhotnich'e'i tropol; fotoocherk. (Molodol kolkhoznik, Jan. 1956. god 23, no. 1, p. 22, illus.) Text in Russian. *Title tr.:* On the hunter's path; a photo-sketch.

Photographs with notes on the hunter's life, and on the catch of squirrel, fox, sable and other fur animals in the

taiga of the Northern Ural.

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47977. SHULER, R. H. Treatment and possible cure of migraine headaches by 30% carbon dioxide — 70% oxygen inhalation. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 210–11.) 2 refs.

Contains information on the nature of migraine syndrome, followed by report of 10 cases treated with the  $CO_2 + O_2$  mixture. Patients with true migraine were completely relieved of headaches.

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47978. SHUL'GIN, ALEKSANDR MIKHAĬLOVICH. Pochvennyĭ klimat i snegozaderzhanie. Nauchnopopuliârnaiâ seriíâ. Moskva, Izd-vo Akademii nauk SSSR, 1954. 107 p. illus., tables, graphs, 50 refs. Text in Russian. *Title tr.:* Climate of the soil, and snow retention. Popular science series.

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Studies on thermal effects of snow cover in protection of winter crops are reviewed. Variations of soil temperature according to thickness of snow cover in different regions, including Western Siberia, are tabulated and graphically represented. Various methods for regulating climate of the soil by snow retention are described: forest belts, fences, planting of long-stemmed grass, corn, sunflower, building of snow banks, etc.

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SHUL'GIN, ALEKSANDR MIKHAĬLO-VICH, see also Akademiia nauk SSSR. Institut geografii. Voprosy izucheniia snega . . . 1955. No. 43525.

47979. SHUL'MAN, S. S. Parazitofauna sel'di, korûushki i navagi Belogomorûa. (Akademiûa nauk SSSR. Karelo-Finskif filial, Trudy, 1956. vyp. 4, ser. parazitologicheskaû, p. 50-67, tables.) 18 refs. Text in Russian. *Title tr.*: Parasites of herring, smelt and dorse of the White Sea.

Account of investigation on the parasites of the three economically most important fishes of the area. Area and age differences in infection, organ(s) affected, possible economic losses, etc., are discussed. None of the species studied caused an epizootic or serious damage or loss.

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47980. SHUMACKER, HARRIS B., 1908— Blockade techniques as protective measures against ventricular fibrillation during hypothermia. (In: Conference on Cold Injury. 4th, Nov. 7–9, 1956, p. 281–304, illus., tables.) 21 refs.

Account of experiments on the effects of injection of a local anesthetic into the area of the sino-auricular node in the hypothermic dog. Pulse, blood pressure, electrocardiogram and ventricular fibrillation were studied with procaine as anesthetic and varied manipulations, and operations with venous-inflow occlusion. Almost complete protection from fibrillation was obtained with the method. Sympathetic intervention of various types was also tried. 

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47981. SHUMACKER, HARRIS B., 1908- , and others. Ventricular fibrilla-

tion in the hypothermic state, 4; the role of extrinsic cardiac innervation. (Annals of surgery, Feb. 1956. v. 143, no. 2, p. 223-29, tables.) 5 refs. Other authors: A. Riberi, R. D. Boone, and H. Kajikuri. Of a variety of means applied, the following prevented fibrillation: bilateral sympathetic denervation of the heart; administration of Arfonad® (in 87 percent of animals); stimulation of the right vagus nerve (in 83 percent of cases). Fibrillation occurred in 40 percent of animals with complete cardiac denervation and in 20 percent of dogs with division of the vagi distally of the cardiac depressor nerves. Parts 1-3, 5 of this series are listed as No. 47573, 42074A, 47574, 42074B.

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SHUMACKER, HARRIS B., 1908—, see also Riberi, A., and others. Ventricular fibrillation . . . hypothermic state, 1 . . . prevention . . . 1956. No. 47573.

SHUMACKER, HARRIS B., 1908—, see also Riberi, A., and others. Ventricular fibrillation . . . hypothermic state, 3 . . . management . . . 1956. No. 47574.

47982. SHUMSKIĬ, PETR ALEKSAN-DROVICH. O narastanii kristallov l'da na tverdoe osnovanie. (*In:* Voprosy geologii Azii, t. 2, 1955. p. 565–95, diagr.) 22 refs. Text in Russian. *Title tr.:* The growth of ice crystals on a solid surface.

Previous investigations are reviewed, and experiments made in the laboratory of the Institute of Permafrostolgy are described. Ice-crystal growth was studied on smooth and rough surfaces of iron and glass at various speeds of cooling and for various directions of heat emission. Oriented ice sections 0.4-0.8 mm. thick were used in studying crystal structure. Orientation varied with conditions of ice formation and solid base structure. Regularities in the ice-crystal orientation suggest the possibility of graduating them with the temperature of ice formation. The new method would permit the history of permafrost and climate of large areas to be studied with paleogeographic analysis of structural crystallization based on quantitative evaluation of the temperature conditions. Copy seen: DLC.

SHUMSKIĬ, PETR ALEKSANDRO-VICH, see also Akademiia nauk SSSR. Institut geografii. Sneg i talye vody. 1956. No. 43523.

47983. SHUNKOV, VIKTOR IVANO-VICH. Ocherki po istorii zemledelifa Sibiri; xvii vek. Moskva, Izd-vo Akademii nauk SSSR, 1956. 432 p. tables, maps incl. 2 fold. (Akademiā nauk SSSR. Institut istorii.) Over 1,300 refs. Text in Russian. *Title tr.:* Sketches of the history of agriculture in Siberia; 17th century.

Monographic study of the early expansion of Russian colonization and of agriculture in Siberia, based partly on unpublished materials. Spread of cultivation into the northern regions of Siberia, down the Yenisey basin to the Podkamennaya Tunguska River and in the Lena River basin to Yakutsk is included.

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47984. SHUNKOV, VIKTOR IVANOVICH. Trudy S. V. Bakhrushina po istorii Sibiri. (In: Bakhrushin, S. V. Nauchnye trudy. t. 3, pub, 1955, pt. 1, p. 5-12.) 26 refs. Text in Russian. Title tr.: S. V. Bakhrushin's works on the history of Siberia.

Reviews Bakhrushin's contribution as that of the greatest authority on Russian exploration and colonization of Siberia. His books and articles (most on 16-17th century) are cited and discussed. His early preoccupation with the military colonization of the tsarist period is criticized. His later studies of economic and cultural aspects disclosing a peaceful Russian penetration of Siberia are lauded.

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SHUNKOV, VIKTOR IVANOVICH, see also Bakhrushin, S. V. Nauchnye trudy. 1952-55. No. 43830.

47985. SHUSTIKOV, VL. Aérosani idut na sever. (Ogoněk, Mar. 1956. god 34, no. 13, p. 13–14, illus.) Text in Russian. *Title tr.:* Aerosledges go north.

Sketch of a winter propeller-sledge trip in the Far East delivering mail to towns in the taiga along Amur River and its tributaries; illus. of sledge and motor.

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47986. SHUSTIKOV, VL. Ogni nad Chul'manom. (Ogonëk, June 1956. god 34, no. 25, p. 7–8, illus.) Text in Russian. *Title tr.:* Lights over Chul'man.

Notes geological investigation of coal and iron ore deposits discovered in the Aldan basin in southern Yakutia; also the recently constructed automobile road from Bol'shoy Never to Yakutsk.

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47987. SHUSTOV, A. Ondatra na severe Evenkii. (Okhota i okhotnich'e

khozíaistvo, Dec. 1956, no. 12, p. 24.) Text in Russian. *Title tr.:* Muskrat in the northern Evenki district.

Acclimatization of muskrat in the district since 1939 has had only a limited success: due to lack of food, the stock decreases sharply every winter. Increase of fall hunting and prohibition of hunting and trapping in the spring is suggested.

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47988. SHUTKIN, P. A. Razvitie zverovodstva v kolkhozakh filmalo-Nenefskogo okruga Tfümenskof oblasti. (Karakulevodstvo i zverovodstvo, Mar.–Apr. 1956. god 9, no. 2, p. 44–46.) Text in Russian. Title tr.: Development of fur farming in the kolkhozes of the Yamalo-Nenets district, Tyumenskava Oblast'.

Contains information on the climate of this District, located on both sides of the Obskaya Guba; nutrition and production of fur animals; income; conditions of animal farming in the various kolkhozes; prospects, etc. Copy seen: DLC.

47989. SHUVALOV, I. Sosedi. (Okhota i okhotnich'e khozíãistvo, Apr. 1956, no. 4, p. 55, illus.) Text in Russian. *Title tr.:* Neighbors.

Note on symbiosis of the eider and "dark goose," *Branta bernicla*, based on observation in Novaya Zemlya.

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47990. SHVETSOV, PETR FILOMO-NOVICH, and L. A. MEÏSTER. Dozhdeval'no-infil'tratsionnyl sposob protaivania rossypel, kak odin iz priemov gidrotermicheskol melioratsii merzlykh gornykh porod. (Akademia nauk SSSR. Izvestia, seria geograficheskala, Nov.—Dec. 1956, no. 6, p. 79–84, diagr.) 10 refs. Text in Russian. Title tr.: Raininfiltration method of thawing alluvial deposits, as one of the hydrothermic methods of thawing frozen rock.

Various thermal methods for thawing rocks are reviewed à propos work on diamond and non-ferrous metal deposits in frozen ground of northeastern Siberia. The method, used in 1947 near Fairbanks, Alaska (No. 21670, 44433) is found to be similar to the "filtrational thawing" method used in 1897 by A. E. Gedroffs on inclined surfaces. In the first method, the thawing process can be accelerated by using water spray on days without rain. Arrangement of trenches with accumulated water is diagrammed (p. 81). Water infiltrated in the ground in large-

scale developments can be utilized as water supply for small industry and for the population. Copy seen: DLC.

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47991. SHVETSOV, PETR FILOMO-NOVICH. O printsipakh ratonirovanifa mnogoletneľ kriolitozony. (In: Akademifa nauk SSSR. Institut merzlotovedenifa. Materialy k osnovam uchenifa o merzlykh zonakh zemnol kory, 1956. vyp. 3, p. 18–39, table.) 15 refs. Text in Russian. Title tr.: Principles for the regional division of perennial cryolithic zone.

Various principles of permafrost division are reviewed, and their applicability to discerning uniform areas is discussed. The division of permafrost ground is usually made in regard to specific elements and to physical, mechanical and chemical processes during freezing, thawing, or temperature variation. The so-called cryolithic-zone characteristics of the maritime belt of the Yana-Indigirka lowlands are described (p. 26) on the basis of data obtained from many drillings in the region. The similarity of meaning of cryological and geological formations is analyzed in relation to inter-mountain depressions such as Él'ga, Markovo, Oymyakon, and is applied also to the Anadyr' volcanic plateau. Characteristics of different geocryological formations are analyzed (table 1, p. 35-36) for the arctic lowland, arctic volcanic and non-volcanic plateaus. Many theoretical and practical problems on geocryology are solved on division of the formation according to composing elements, corresponding to small areas. For example the low formations of northern Yakutia are divided in three stages: valley, river basin, and maritime. The mountainous regions of Verkhoyan and others are also analyzed.

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47992. SHVETSOV, PETR FILOMON-OVICH. Proiskhozhdenie i zakonomernosti rasprostranenia podzemnykh l'dov. (Akademia nauk SSSR. Vestnik, Mar. 1956. god 26, no. 3, p. 66-69, illus.) Text in Russian. *Title tr:* Origin and regularity of fossil-ice distribution.

Brief survey of permafrost studies in the U. S. S. R., beginning with P. Lassinius (1725) and Kh. Laptev (1739), to recent investigations of P. A. Shumskil, and others. Theories explaining ground ice as fossilized granular snow field (névé or firn theory: O. Koîsebu, E. Toll, and others) or as veins of frozen ground

water (congelation or vein theory: A. E. Figurin, A. Bunge, and others) are outlined. Special study made by the Institute of Permafrostology during the last six years, when various methods and laboratory experiments were used, established the soundness of the congelation theory. Significance of this theory for geocryological survey and engineering in U. S. S. R., where the area underlain by fossil ice is about 1.5 million sq. km. with max. thickness to 50 m., is stressed; need of further studies of location and evaluation of underground ice masses are noted.

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4793. SHVETSOV, PETR FILOMON-OVICH. Vvodnye glavy k osnovam geokriologii. (Akademiâ nauk SSSR. Institut merzlotovedeniâ. Materialy k osnovam ucheniâ o merzlykh zonakh zemnoĭ kory, vyp. 1.) Moskva, 1955. 110 p. 4 illus. 61 refs. Text in Russian. Title tr: Introduction to theories on geocryology.

The development of permafrostology in the U.S.S.R. and its basic problems are outlined and existing Russian terminology on the processes of freezing is critically reviewed. Systematization of terminology is suggested, especially for frozen earth crust, frozen ground, soil and rocks. Meaning of the terms permafrost ground, glacial ground, ground, sub-ground, soil, sub-soil, etc. are analyzed and defined as action process or states, on the basis of authoritative interpretations. The term frozen ground is recommended for soil in which the change from water to ice occurs com-pletely or in part. The term frost soil is suggested for rocks and soils containing only bound water below the freezing point. Terms cryosphere and cryolithozone are discussed in detail as processes associated with frost action in the earth. These terms are diagramatically coordinated with sciences on chart, p. 25: geophysics, geocryology, geology are related to climatology, glaciology, hydrology, etc., also to agro-biological and engineering sciences. The second chapter (p. 27-74) reviews progressive studies of the cryolithozone leading to development of geocryology.

Statements and definitions of various phenomena observed by different explorers and scientists are cited. Third chapter (p. 75–107) contains theoretical analysis of the cryolithozone and analyti-

cal formulation of thermal processes between the lithosphere and ground. **Copy seen:** DLC.

47994. SÍADEK, B. Na sever i v tropiki; dve ékspediísii pol'skikh uchenykh. (Vokrug sveta, Dec. 1956, no. 12, p. 43–46, illus.) Text in Russian. Title tr: Toward the North and the Tropics; two expeditions of Polish scientists.

Plans for Polish participation in the IGY.: interview with the Polish geologist Dr. Stanisław Siedlecki on setting up a station in 1957, in Torrel Land on Vestspitsbergen, at 76°54′ N. 15°57′ E. Previous Polish expeditions to Spitsbergen in 1934, 1936 and 1938, and a reconnaissance trip by Dr. Siedlecki in 1956 are noted. Copy seen: DLC.

4795. SIBIRSKIE OGNI. 25-letie severnykh nafsional'nykh okrugov. (Sibirskie ogni, Jan.-Feb. 1956. god 35, no. 1, p. 190.) Text in Russian. Title tr.: The 25th anniversary of northern national districts.

Notes importance of Soviet national policy for the cultural development of peoples of the far North during the last 25 years. A special scientific session held at the Leningrad Pedagogical Institute as well as books and articles published for the occasion are discussed.

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47996. SIBIRTSEV, I. Rozhdenie giganta. (Sibirskie ogni, July-Aug. 1956. god 35, no. 4, p. 129-33.) Text in Russian. *Title tr.*: The birth of a giant.

Describes the Krasnoyarsk aluminum plant powered by the hydro-electric station at Shumikha; the Yenisey cascades now under development with a station of 20 million kwt. capacity are noted.

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47997. SIDENKO, P. D. O nekotorykh poníatiíakh v merzlotovedenii. (Akademiía nauk SSSR. Institut merzlotovedeniía. Materialy k osnovam ucheniía o merzlykh zonakh zemnoľ kory, 1955. vyp. 2, p. 57–58.) 2 refs. Text in Russian. *Title tr.:* On certain concepts of permafrostology.

"Sumgin's definition of permafrost as the soil strata beneath the surface in which a temperature below 0° C. has existed continously from two to tens of thousands of years is considered to be incomplete and inaccurate. Sumgin is criticized for neglecting the state of water aggregation in describing the general physical and mechanical properties of frozen ground. It is suggested that three zones be distinguished in permafrost: the active layer in which the annual cycle of freezing and thawing occurs, the frozen zone where soil particles remain locked in ice for several years, and the zone permanently below 0° C. without a phase change in ground water."—SIPRE.

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SIDERYS, HARRY, see Riberi, A., and others. Ventricular fibrillation...hypothermic state, 1 . . . prevention . . . 1956. No. 47573.

SIDLOFSKY, S., see Haist, R. E., and others. Effect . . . cold acclimatization in rats shocked . . . 1956. No. 45386.

47998. SIDORENKO, NIKOLAĬ, Editor. Poėzifa sovetskoi lAkutii. Moskva, Gos. izd-vo khudozh. lit-ry, 1955. 542 p. Text in Russian. Title tr.: Poetry of Soviet Yakutia.

Translation into Russian of selected (mainly political) verses of 17 Yakut writers of the Soviet period. Short biographical notes are added, also an introduction by Sofron Danilov on Yakut history and post-Revolution poetry.

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4799. SIDOROV, G. Zemlîa blagodatnaîa. (Smena, Aug. 1956. god 33, no. 16, p. 7–9, illus., col. plate.) Text in Russian. *Title tr.:* A rich country.

Sketches of Krasnoyarskiy Kray by a geographer who studied the country: rivers, taiga forests, settlements, progress of industry, etc. Developing of arctic areas, with Igarka, Dudinka and Noril'sk as their centers, is noted.

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SIEBERT, C. A., see White, A. E., and C. A. Siebert. Literature survey . . . low-temperature properties of metals. 1947. No. 48936.

SIEDLECKI, STANISŁAW, see Siadek, B. Na sever i v tropiki . . . 1956. No. 47994.

48000. SÎEVERNYĬ ARKHIV. O postepennom uvelichenii Rossifskogo Gosudarstva. (Sîevernyî arkhiv, 1822, chast' 2, p. 122–37.) Text in Russian. *Title tr.:* On the gradual growth of the Russian state.

Chronology with statistical data (in sq. mi.) of territorial gains and losses,

1015–1682. Land acquisition along the White Sea coast and conquest of Siberia to Kamchatka are included.

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SIEVERS, MARY LOUISE, see Musacchia, X. J., and M. L. Sievers. Effects . . . cold torpor on blood of Chrysemys . . . 1956. No. 46909.

SIEVERS, MARY LOUISE, see also Musacchia, X. J., and M. L. Sievers. Effects . . . cold torpor on hemoconcentration . . . Chrysemys picta. 1956. No. 46910.

48001. SIEVERT, ROLF M. Records of gamma radiation from the ground and beta radiation from radioactive debris in Sweden 1950–1955; part 1. (Tellus, May 1956. v. 8, no. 2, p. 117–26, illus., diagrs., tables, text maps.) 28 refs.

Measurements were made at six stations from 56°-68° N. lat. The results are analyzed, and the apparatus and method of measurement are described. Gamma radiation from the ground is constant with dry weather conditions and with no recent nuclear explosions. This radiation pattern changes with snow on the ground, depending on snow absorption. The total radiation depends on the activity of the top snow layer. Data on gamma radiation during and after snow, the correlation between gamma radiation and snow cover in the 1950-51 winter, and absorption by various depths are Copy seen: DLC. graphed.

48002. SIITONEN, VILHO OLAVI. Über die Varietäten der Trichopteren. (Suomen hyönteistieteellinen aikakauskirja, 1951. v. 17, no. 3, p. 111–13, illus.) 8 refs. Text in German. Title tr.: On variations in Trichoptera.

Notes chiefly color variation in trichopters, including Neuronia lapponica var. hyperborea, a melanistic high boreal form, collected in Muonio, Kemi Lappmark. Copy seen: DLC.

48003. SHVONEN, LAURI KALERVO. Zur Phänologie des Frühjahrsauftretens der Hummel, Bombus, Hym., Apidae; eine vergleichende Betrachtung. (Suomen hyönteistieteellinen aikakauskirja, 1942. v. 8, no. 1, p. 83–102, 3 diagrs., 2 tables.) 3 refs. Text in German. Title tr.: A contribution to the phenology of the spring appearance of bumblebees, Bombus, Hym., Apidae; a comparative investigation.

Spring temperature fluctuations, 1831-

1940 are diagrammed and the appearance of bumble-bees tabulated for various geographic regions of Finland  $(60^{\circ}-70^{\circ} \text{ N})$ . The spring appearance of the cuckoo  $(60^{\circ}-70^{\circ} \text{ N}.)$  is also shown. From comparison of these data, the phenology of the bee is found dependent on local temperature, but that of the cuckoo little affected by fluctuation of temperature. Copy seen: DLC.

SILINI, GIOVANNI, see Arezio, G., and others. Azione del citocromo C... 1956. No. 43728.

SILINI, GIOVANNI, see also Arezio, G., and others. Azione del freddo . . . 1956. No. 43729.

SILINI, GIOVANNI, see also Arezio, G., and others. Azione dell' A. T. P. . . . 1956. No. 43730.

SILINI, GIOVANNI, see also Arezio, G., and others. Studio sull'ipotermia ipoossica . . . 1956. No. 43732.

SILK, H. V., see Great Britain. Hydrographic Dept. Bering Sea and Strait pilot . . . 1954. No. 45259.

SILK, H. V., see also Great Britain. Hydrographic Dept. Supplement no. 2 . . . east coast of Siberia and . . . Okhotsk pilot . . . 1956. No. 45261.

SILLERSTRÖM, ERIK, see Haglund, B. Den levande skogen . . . 1955. No. 45380.

SIMARD, R., see Thunaes, A., and others. Development . . . Port Radium leaching process . . . uranium. 1955. No. 48391.

48004. SIMEONE, FIORINDO ANTHONY, 1908- A preliminary follow-up report on cases of cold injury following following report on cases of cold injury. 4th, Nov. 7-9, 1955, Princeton, N. J. Transactions, pub. 1956, p. 197-223, illus.) 5 refs.

Summary of follow-up, illustrated with color photographs. Plethysmography and capillary micrography gave no specific indications of pathologic changes. Temperature responses of the skin suggest that its blood vessels do not constrict and dilate in stated circumstances as effectively as in normal subjects.

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48005. SIMMA, LARS. Rajd västover. (Svenska turistföreningen, Stockholm. Årsskrift, 1952, p. 235–38.) Text in Swedish. Title tr.: The westward carayan.

Reindeer herds near Ilvuoma in the Lainio River region of northern Sweden move westward in spring over areas with fodder available to Lappish Norway, where there is less snow cover and more pasturage. Day-to-day routine activities are described by a member of a Lapp family on the march. The final summer destination is Tjoalmajaure on the border upland on the south spur of Storfjället.

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48006. SIMOJOKI, HEIKKI JUHANI, 1906 - Einige Ergebnisse der Niederschlagsregistrierungen in Finnland. Helsinki, 1944. 45 p., 4 diagrs., 13 tables (Suomalainen tiedeakatemia. Toimituksia, Sarja A–I. Mathematica-physica, 26.) 13 refs. Text in German. Title tr.: Some conclusions regarding the registration of precipitation in Finland.

Precipitation measurement from a number of stations, including Sodankylä, is analyzed. Frequency, duration, and amount relationships at individual stations should be studied for better understanding of rainfall effectiveness in individual locations; both practical and climatological purposes would be served.

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**48007.** SIMOJOKI, HEIKKI JUHANI, **1906**— . On river level rising in springtime as caused by ice jams. (Geophysica, 1952. v. 5, no. 1, p. 1–10, diagrs., map, 5 tables.) 4 refs.

Snow melting in spring raises the level of rivers, ice loosens from the river banks and begins to move. The average dates of the beginning and ending of spring break-up are tabulated for 13 locations on the Kemijoki, and seven other rivers flowing into the Gulf of Bothnia. The time between the two dates varies from 2 to 13 days. The time lapse between the average date of the spring isotherm and the average date of the beginning of spring break-up varies from 8 to 16 days, the corresponding difference for large lakes being about 25 days. An abrupt rise of water level occurs before the beginning of the break-up. Irregularities attributed to ice jams occur during breakup. Regularity in variation resumes after the end of break-up. Two methods of determining the amount of level fluctuation due to ice jamming are presented. Results of estimated amount of jamming by both methods are tabulated. It is estimated that about 20-60 percent of the maximum water-level rise during spring is due to ice jams.—From SIPRE.

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48008. SIMON, H. P. Transportation Corps in the field of mobility. (*In:* U. S. Office of Ordnance Research. Interservice Vehicle Mobility Symposium, 18–20 Apr. 1955. v. 2, Papers, p. 10–13, 4 illus., diagrs.)

Development research of the Transportation Corps is outlined briefly. Mobility, as defined by the interests of the Corps, is the maximum effective ton/mile rate of a vehicle when moving through a given terrain. The problem of movement over permanent snow areas led to the development of the "Sno-Train", a 4-unit, multiple trailer vehicle. Power is diesel electric, and all wheels are powered by electric motors. Overall length is 174 ft. with a rated payload of 90,000 lb. Copy seen: DLC.

48009. SIMONEN, AHTI JOUKO PÄIVIÖ, 1916—. Cambrian sediments in Finland. (In: International Geological Congress. 20th, Mexico City, 1956. El sistema Cámbrico, su paleogeografía y el problema de su base: symposium. tomo 1, p. 91–95, text map, table.) 8 refs.

The few Cambrian occurrences in Finland include outcrops on the southwest coast, central Finland, and westernmost arm of Finnish Lapland (approx. 69° N. 21° W.). In Lapland, autochthonous Cambrian sediments deposited on the Precambrian crystalline basement occur beneath the Caledonian overthrust The basal formation contains conglomerate and sandstone. In the upper, containing shale, quartzite and dolomite, evidence of tectonic movements is seen. Manner of occurrence, stratigraphic and lithologic features are similar to those of the fossiliferous Lower Cambrian Hyolithus zone of Sweden and Norway. Copy seen: DGS.

48010. SIMONEN, AHTI JOUKO PÄIVIÖ, 1916– . Finlande. (In: International Geological Congress. 20th, Mexico City, 1956. Lexique stratigraphique international. v. 1, Europe, fasc. 2b, p. 89–101, text map.) 35 refs.

An alphabetical listing of formations in Finland (including northern Finland), giving source of original description and name of each formation, its composition,

age, type locality, geographic distribution, fossils; literature. Generalized geologic map accompanies text.

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SIMONEN, AHTI JOUKO PÄIVIÖ, 1916–, see also Ödman, O. H. R., and others. Den svensk-finska geologiska exkursionen i Tornedalen . . . 1948. 1949. No. 47136.

48011. SIMONSEN, POUL. Beinredskaper fra Finnmark. (Ottar, Tromsø, Feb. 1955. nr. 3, p. 12–13, illus.) Text in Norwegian. *Title tr.:* Bone implements from Finmark.

Bone implements identical in style but different in age have been found in northern Norway: some 4,000 years old at sites in Nesseby, Båtsfjord, and Kvalsund; some 1,600 years at Kirkenes, and others 400-600 years at Vadsø and on Vardøya.

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48012. SIMONSEN, POUL. "Black houses" in North Norway in the Middle Ages. (Bergen, Norway. Universitetet. Årbok 1955, pub. 1956. Historisk-antikvarisk rekke, nr. 1, Annen viking kongress, Bergen, 1953. p. 100–106,

2 illus., text map.)

The "black houses" (long-houses of stones and turf, with turf roof) seem indigenous to the west and northwest coasts. Sites were investigated by the writer for three seasons (1951-1953?) on Mjelvik, an island on the outer coast northwest of Tromsø. His object was to show close relationship between architecture of the Lofoten-Vesterålen-Tromsø area and that of settlements in Iceland, the Faeroes, and Greenland in the Middle Houses on Mjelvik originated between 1300 and 1450. Two farms, one completely and the other partially excavated, are described, including the dwelling house, cow-byre, fire house, and sheepcot. Copy seen: DLC.

48013. SIMONSEN, POUL. De eldste krigsvåpen. (Ottar, Tromsø, Mar. 1955. nr. 4, p. 20–22, illus.) Text in Norwegian. Title tr.: The oldest war weapons.

The stone axehead here described belonged to the nomadic stock that plundered Europe in pre-Christian times. These weapons were not used in northern Norway, but one has been found at Hungeren in Tromsdalen and another at Småslett on Kvaløya.

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48014. SIMONSEN, POUL. Helleristninger i Finnmark. (Ottar, Tromsø, Dec. 1955. nr. 7, p. 12-14, illus.) Text in Norwegian. *Title tr.:* Rock carvings in Finnmark.

Two carvings are described: one, at Leirbukt in Repparfjord, depicts two reindeer, an elk, and a skin boat; the other, of flying birds and two boats, was found near Gåshopen on Sørøy, and it resembles more southerly carvings.

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48015. SIMONSEN, POUL. Helleristninger ved Tromsø. Tromsø, Aug. 1955. 30 p. 8 illus., text map (Ottar, nr. 5.) 4 refs. Text in Norwegian. Title tr.: Rock carvings near Tromsø.

Eleven stone age rock carvings are found in Nordland, eight in Troms, and three in Finmark. In age they range over some 2,000 years. The older are naturalistic, the younger more stylized. All were probably painted with red ochre, but only one now has original paint remnants. The sites at Skavberg, Åsli, Tennes, and Kirkely near Tromsø are described in detail.

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48016. SIMONSEN, POUL. Et importstykke fra en fremmed kulturkrets. (Ottar, Tromsø, Feb. 1955. nr. 3, p. 23–24, illus.) Text in Norwegian. *Title tr.:* An imported piece from a foreign culture sphere.

There was no bronze age in northern Norway; nence the bronze sword from Vinje in Bø, Vesterålen, dated 1000 B. C., is an unusual find. Such relics indicate commercial and social contacts and are used to date the associated local artifacts.

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48017. SIMONSEN, POUL. Karlebotn, en steinalderby ved Varangerfjorden. Tromsø, June 1954. 10 p. 3 illus. (Ottar, nr. 1). 2 refs. Text in Norwegian. *Title tr.*: Karlebotn, a stone age village on the Varangerfjord.

Later stone age artifacts were found over those of earlier stone age in 1952–53 on hut sites 26 m. above sea level at Karlebotn in Finmark, northern Norway. Early stone age (Kamkeramikk) people may be direct ancestors of present Lapps. Their way of life and homes are basically similar. The dating of archeological sites in northern Norway on the basis of elevation above sea level is considered questionable, as is the theory that southern Norwegian culture was influential in the stone age.

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48018. SIMONSEN, POUL. Litt om primitiv keramikk. (Ottar, Tromsø, Oct. 1956. nr. 8, p. 24–33, 2 illus.) Text in Norwegian. *Title tr.* A note on primitive ceramics.

From Varangerfjord, Finmark, dated over a period of 2,500 years, are a large number of comb-ceramic pieces, coarse sherds with deep-grooved ornamentation, and some of a later, lighter type. Patterns, changes in material, and the relationship to ceramics elsewhere in Europe are discussed.

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48019. SIMONSEN, POUL. Mariaskjeen fra Gryllefjord. (Ottar, Tromsø, Feb. 1955. nr. 3, p. 10–11, illus.) Text in Norwegian. *Title tr.:* The Maria spoon from Gryllefjord.

Describes spoon from a site, dated ca. 1500 A. D., in Gryllefjord on the west coast of Senja, northern Norway; it bears the mark of a maker in Lübeck, Germany and indicates trade in historic times.

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**48020.** SIMONSEN, POUL. Nordnorske huleboere. (Ottar, Tromsø, Dec. 1955. nr. 7, p. 24–26, illus.) Text in Norwegian. *Title tr.:* North Norwegian cave dwellers.

When the sea was 74–42 meters above present level, some twelve to six thousand years ago, it carved out the caves on Traena. Ca. 2300 B. C. the so-called Church cave became inhabited seasonally by people who caught fish and birds. Habitation ceased during the Black Death. The archeological remains are briefly described.

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**48021.** SIMONSEN, POUL. På sporet av ukjent steinalderkultur. (Ottar, Tromsø, Oct. 1956. nr. 8, p. 9–12, illus.) Text in Norwegian. *Title tr.:* On the trail of unknown stone age culture.

Stone age homesites at Advik in Varangerfjord, northern Norway, were investigated in 1954. In the "gamma" type, were younger stone age artifacts (ca. 1500 B. C.). The longer, originally half-buried houses (ca. 1000–500 B. C.) resembled two-family Greenland Eskimo winter houses. Two similar sites are found in Sør-Varanger and a third on Rybachiy Poluostrov in Russian Finland. Copy seen: DLC.

**48022.** SIMONSEN, POUL. En vikingegrav i seilleden. (Ottar, Tromsø, Mar. 1955. nr. 4, p. 8-9, illus.) Text in Nor-

wegian. Title tr.: A Viking grave on the sailing fairway.

A plundered Viking burial mound, on Kjeøya outside of Harstad, Nordland, is described. There are 17 untouched mounds on the same island.

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SIMPSON, J. A., see Rose, D. C., and others. Latitude effect . . . cosmic ray . . . components . . . 1956. No. 47658.

48023. SINAÏSKIĪ, S. Nekotorye voprosy proektirovaniâ zhilykh zdaniI dlîa severnykh raĭonov. (Arkhitektura SSSR, 1956, no. 1, p. 26–28.) Text in Russian. *Title tr.:* Problems of building construction in northern regions.

Special construction problems in the North associated with severe temperatures, deep soil freezing, and intense snowdrifting are discussed. Simple rectangular construction with windows on the south side is considered the best design to lessen heat loss and snow accu-The foundation problem, mulation. which has been generally solved for permafrost regions, requires attention for conditions of ground freezing to depths of 2.5-4.5 m., and heavy soil moisture. Reinforced concrete anchor columns connected with the upper frame are recommended in preference to the continuous foundation wall.—From SIPRE.

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SINCLAIR, GEORGE WINSTON, 1913- , see Buehler, E. J. The morphology . . . Halysitidae. 1955. No.

SINDBJERG-HANSEN, VAGN, 1912- , see Denmark, Grønlands Styrelse. Beretning . . . Laegeekspedition 1947-48. 1949. No. 44594.

48024. SINEL'NIKOV, A. Vinogradovit. (Ogonëk, Aug. 1956. god 34, no. 34, p. 13, port.) Text in Russian. *Title* tr.: A new mineral, "vinogradovite."

Notes a new rare mineral found in Kola Peninsula in the Lovozero region of Khibiny, named in honor of the Soviet mineralogist Academician A. P. Vinogradov; it contains titanium, niobium and beryllium. Copy seen: DLC.

48025. SINEL'NIKOV, K. I. Nashi metody bor'by s gololedom. (Vestnik sv\(\hat{a}z\)i, Feb. 1956. god 16, no. 2 (191), p. 23-24, diagr.) Text in Russian. Title tr.: Our method of glaze control. Construction and use of a wooden scraper successfully used for two yr. for removing glaze from wires in the Saransk region are described. A scraper of another design was also tested but was only satisfactory in removing hoarfrost. Coordinated work of four men for each section (6 km.) of the line is described.

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48026. SIPLE, PAUL ALLMAN, 1908- Problems for consideration in design of arctic equipment. Aug. 13, 1946. 2 p. (typescript) on microfilm.

Notes on lecture by Dr. Siple at Engr. Board Theater, 1300–1500, 13 Aug. 1946 on Problems for consideration in design of arctic equipment. Personal and environmental factors to be considered in designing arctic clothing and equipment are outlined. Clothing must provide minimum exposure of the individual. Personnel must be trained in the use of equipment. Equipment must allow for the effects of low temperature, penetration of fine snow, and fogging of optical equipment.

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SIPRE, see U. S. Library of Congress. Technical Information Division. Bibliography . . . snow, ice and permafrost. 1956. No. 48618.

SIRONVAL, C., see Bonnier, C., and C. Sironval. Influence . . . day-length . . . nodule formation . . . Soja. 1956. No. 44086.

48027. SISSENWINE, NORMAN, and A. COURT. Climatic extremes for military equipment. Washington, D. C., Nov. 1951. iv, 63 p. charts (1 fold.), maps, tables. (U. S. Army. Office of the Quartermaster General. Research and Development division. Environmental Protection Branch. Report no. 146.) 94 refs.

"The probable and practical extremes of seven natural environmental stress factors, determined from analysis of available world-wide climatic and environmental data, are explained in detail. Conditions are proposed for the design and evaluation of military equipment intended for use under extremes of temperature, humidity, precipitation (including snow load), wind, penetration and abrasion (by sand, snow, and dust), salt spray, and atmospheric pressure. Operation is characterized as ground and shipboard; the former is subdivided into world-wide, arctic winter, hot desert, and moist tropics. Applicability of the proposed conditions to these types of operation is indicated; world-wide storage is also considered. These data are intended to aid in developing laboratory test methods, but final testing in areas where the extremes are likely to exist is recommended."—TIP.

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48028. SITNIKOV, G. G. Severo-zapad RSFSR; lektsii, prochitannye v Vysshef partifnof shkole pri TSK KPSS. Moskva, Vysshafa partifnafa shkola pri TSK KPSS, 1955. 50 p. 2 refs. Text in Russian. *Title tr.:* The northwestern R. S. F. S. R.; lectures delivered at the Higher Party School of the Central Committee of the Communist Party of the Soviet Union.

Includes (p. 12-14 and 41-46) a brief outline of the geography of Kola Peninsula, its geology and mineral resources, climate, agriculture, fisheries and industry generally; its main settlements are noted.

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SIVERTZ, B. G., see Northern affairs bulletin. 1956- in progress. No. 47091.

SIVERTZ, BARBARA P., see Northern affairs bulletin. 1956- in progress. No. 47091.

SIVTSEV, DMITRII KONONOVICH, (SUORUN OMOLOON), 1906–, see Bazhov, N. Pesnía... 1956. No. 43910.

SIZOV, A. M., see Gol'denblat, I. I., and others. O snegovykh nagruzkakh . . . 1956. No. 45159.

48029. SIZOV, I. A. Itogi i perspektivy nauchnoi raboty. (Nauka i peredovol opyt v sel'skom khozālstve, Jan. 1956. god 6, no. 1, p. 25–27, illus.) Text in Russian. *Title tr.:* Results and prospects of scientific work.

Outline of the activities of the All-Union Institute of Plant Cultivation (Vsesoûznyl institut rastenievodstva, VIR) by its deputy director. Work of the Institute's polar experimental stations to advance agriculture in the far North, e. g. in selection of cold-resistant strains of potato, vegetables and grass, is noted, also potato and cabbage crops of 250–300 cwt/hectare and 400–450 cwt/h. respectively, in Murmansk Province.

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48030. SIZOV, V. N., and S. N. KOR-OTKOV. Bystro tverdefushchie v zimnikh uslovifakh betony dlfa monolitnykh konstruktsii. (Bûlleten'stroitel'noi tekhniki, Apr. 1956. god 13, no. 4, p. 4-6, 3 tables.) Text in Russian. *Title tr.:* Quick-setting concrete in winter conditions for monolithic construction.

Composition of quick-setting cement and method of preparing concrete are described, and laboratory test results presented in tables. The cement (B. T. TS.) differs from the common Portland grade in mineralogical composition, kilning (firing) conditions, fineness of grind and higher content (5 percent) of gypsum. Four types of concrete were prepared for the tests, with and without pre-freezing at temperature of -30° C. and addition of 2 percent CaCl<sub>2</sub>; results are given (table 3). Special winter concrete mix-

tures suitable for monolithic construction

or ornamental work are specified.

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48031. SJÖGREN, ANT. Åsigterna om jernmalmerna å Gellivara malmberg och de bergarter som innesluta malmerna. (Geologiska föreningen, Stockholm. Förhandlingar, 1891. bd. 13, häfte 1, no. 134, p. 18–26.) Refs. in text. Text in Swedish. *Title tr.:* Viewpoints on the iron ores at Gällivare Malmberg and the rock varieties that surround the ores.

Four reasons are cited for disputing the eruptive origin of the iron ore of the Gällivare region. Discussion of these includes review of literature and mineralogic description of surrounding bedrock into which the iron ore appears to blend in a yet obscure relationship.

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48032. SJÖGREN, BENGT, 1925—. Vandrande fjärilar. (Naturen, 1955. Årg. 79, nr. 5, p. 154–59.) Text in Swedish. *Title tr.:* Migrating butterflies.

Migrations of certain butterflies and moths are discussed, among them the thistle butterfly, *Pyrameis*, moving from Africa and the Middle East to Lapland, also *Acherontia atropos* reaching the Lofotens, Jukkasjärvi, and Kiruna.

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48033. SJÖGREN, HJALMAR, 1856–1922. A chemical investigation of some minerals from Lille Arøe and Øvre Arøe in the firth of Langesund. (Upsala. Universitet. Mineralogisk-geologiska institut. Bulletin, 1899, pub. 1900. v. 4, pt. 2, no. 8, p. 227–30.)

Includes data on chemical composition of epididymite from a location in Norway, with reference to occurrence at Narssarssuaq, West Greenland, as noted by Gustaf Flink, q. v.

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48034. SJÖSTEDT, YNGVE, 1866–, and others. Insektfaunan inom Abisko nationalpark, I–III. Stockholm, 1931. 3 pt.: 64, 68, 72 p. map, tables. (Svenska vetenskapsakademien. Skrifter i naturskyddsärenden, nr. 16–18.) Text in Swedish. Title tr.: Insect fauna within Abisko National Park, pt. I–III.

The first comprehensive study of insects in Swedish Lapland since that of Zetterstedt (No. 27585, 27586). Carried out under direction of Dr. Sjöstedt, it concerns mainly insects from the Park, and most of the field work was based at the Abisko natural science station on the south side of Torneträsk. The reports (15) of the twelve investigators are listed in this Bibliography under their names, viz:

Part I
BRUNDIN, L. Z. Coleoptera.
BRUNDIN, L. Z. Lepidoptera.

Part II
BENGTSSON, S. Bombinae.
ROMAN, A. Ichneumonidae.
MALAISE, R. Tenthredinidae.

Part 111

RINGDAHL, O. Diptera Brachycera.
EDWARDS, F. W. Nematocera.
JENSEN-HAARUP, A. C., and H.
LINDBERG. Hemiptera.
TJEDER, B. Neuroptera.
FORSSLUND, K. H. Trichoptera.
BENGTSSON, S. Ephemeroptera.
BENGTSSON, S. Plecoptera.
ANDER, K. Odonata.
ANDER, K. Orthoptera.
SCHÖTT, H. Collembola.

SJÖSTEDT, YNGVE, 1866—, see also Poppius, B. R. Lepidoptera . . . Sarekge-

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SJÖSTRÖM, BJÖRN, see Johansson, B., and others. Electrocardiographic observations . . . hypothermia. 1956. No. 45805.

birge. 1919. No. 47425.

48035. SKAANES, NILS O. F. Tindveden (Hippophaë rhamnoides) i Norge. (Blyttia, 1946. bd. 4, hefte 2–4, p. 25–71, 16 illus.) 63 refs. Text in Norwegian. Title tr: Hippophae rhamnoides in Norway.

Study of the distribution of this shrub

in Norway based on literature data and the author's observations; it is arranged by the regions, and includes the two northern provinces of Nordland (p. 55-64) and Tromsø (p. 64-66); historical notes, a review of botanical literature, vernacular names and extensive data on distribution are given. Copy seen: DA.

SKALON, V. Prigotovit'sîa k ispol'zovanin Angarskikh morel. (Okhota i okhotnich'e khozîaIstvo, Mar. 1956, no. 3, p. 27.) Text in Russian. Title tr: Get ready to utilize the seas of the Angara.

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Suggests plans for utilization of the water reservoirs to be created by the hydro-electric installations on the Angara River: acclimatization of muskrat, organization of hunting, growing of wild Copy seen: DLC. rice, etc.

48037. SKALON, V. N. Olennye kamni Mongolii i problema proiskhozholenevodstva. (Sovetskafa kheologifa, 1956. v. 25, p. 87-105.) 84 Title tr: Pic-Text in Russian. torial reindeer stones of Mongolia and the problem of the origin of reindeer

husbandry.

Discusses various theories of the origin of reindeer husbandry and refutes the notion that domestication of reindeer is endemic to the North. Modern wild reindeer cannot be successfully tamed and even cross-breeding with the domestic stock is usually avoided. Domestic strains come from a now extinct taiga reindeer that used to inhabit the then moister Sayan and West Mongolian-South Siberian area. This theory, supported by archeological finds, shows that the domestic reindeer spread across the Ob' - Yenisey divide, first northwest then northeast, reaching the Lapps in the 9th-11th centuries, the Samoyeds, Tungus and Chukchis probably as late as the 17th-18th. Copy seen: DLC.

SKARLAND, IVAR, 1899-48038. The Bering land-bridge re-evaluated. (Alaskan Science Conference . . . 1952, Proceedings, pub. 1954, p. 125-27.) 11 refs.

Migration of Pleistocene animals between the Old and New Worlds and the occurrence of remnants of this fauna in lands now occupying insular positions is noted. Literature on worldwide lowering of sea level during glacial stages is reviewed. Low sea levels and wide continental shelves facilitated eastward migrations in the early Pleistocene from the Okhotsk region, and later over a wide Kamchatka-arctic continental shelf. Kotzebue Land is proposed as name of this northern continental shelf. Possibility of animals or men crossing Bering Strait on sea ice or small boats is discounted. Copy seen: DGS.

SKARLAND, IVAR, 1899-48039. Review of early Alaskan prehistory. (In: Alaskan Science Conference . 1953. Proceedings, pub. 1956, p. 197-200.) 11 refs.

No definite proof exists that man was a contemporary of extinct late Pleistocene fauna in Alaska. Man-made flint implements discovered in interior Alaska, on the Arctic Slope, and Norton Sound provide indirect evidence. These discoveries and the literature on them are briefly reviewed. Man must have arrived over the Bering land bridge during the Pleistocene. Two routes to the interior of the continent existed: eastward via the Kuskokwim and Yukon valleys or northeast over the Arctic Slope.

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48040. SKELTON, RALEIGH ASHLIN. Explorers' maps, XII; North America from sea to sea, 1600-1800. (Geographical magazine, Feb. 1956. v. 28, no. 10, p. 489-501, illus., text maps.) Continuation of a series represented in Arctic Bibliography by No. 32087-32088

Contains maps with explanatory text on English, French, and Spanish exploration on the North American mainland during the 17th and 18th centuries. Arctic or subarctic areas are shown on Champlain's map of New France, pub. 1632, which includes Labrador and the Hudson Bay region; and Buache's map of the regions explored by La Vérendrye and sons 1731-1749, including the western coastal regions of Hudson Bay. Overland journeys by Hearne (1771) and Mackenzie (1789) and voyages of Cook (1778) and Vancouver (1792-1794) along the Pacific Coast, are depicted (fig. 15) to explode "the myth of a water-passage across Canada from the Pacific to Hudson Bav." Copy seen: DLC.

48041. SKELTON, RALEIGH ASHLIN. Explorers' maps, XIV; the polar regions in the 19th century. (Geographical magazine, Aug. 1956. v. 29, no. 4, p. 187-200, 4 illus., 10 text maps.)

Final article in a series (by Superintendent of the Map Room, British Museum) "presenting, in regional order, some episodes in the history of exploration for which the evidence of maps is specially interesting or accessible." These 19th century maps are accompanied by explanatory text on expeditions to the Antarctic, and those of Parry, Ross, Beechey, Franklin, Back, Simpson, Rae, and the Franklin Search expeditions to the Canadian Arctic.

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48042. SKIFTE, OLA. Om den raude flugesoppen. (Ottar, Tromsø, Mar. 1955. nr. 4, p. 18–20, illus.) Text in Norwegian. *Title tr.:* On the red toadstool.

The poisonous red toadstool is common in northern Norway at least as far as Nordreisa. From the Middle Ages it has been used to make insect poison. In humans, the poison causes hallucinations, hysteria, and sometimes unconsciousness; its use in Kamehatka and Scandinavia is noted.

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**48043. SKINNER, HENRY, 1861–1926.** The genus *Parnassius* in America; Lep. (Entomological news, May 1916. v. 27, no. 5, p. 240–16, plate 12.)

Contains discussion and illustrations of North American species. P. eversmanni, P. e. var. thor and P. nomion var. nominulus are recorded in Alaska. A revised list of species of the genus is appended; P. apricatus from Kodiak Island is included. Copy seen: DA.

48044. SKINNER, HENRY, 1861–1926. Lycaena lygdamus Doubleday and its races, with a description of a new one; Lep. (Entomological news, May 1917. v. 28, no. 5, p. 212–14.)

Contains discussion of this species, occurring at Eagle, Alaska, and its races, one of which, couperi, is also recorded in Alaska and Labrador. Copy seen: DA.

48045. SKL\(\hat{A}\)ROV, VIKTOR MIRO-NOVICH. Meteorologi\(\hat{a}\) dl\(\hat{a}\) gidrometnabl\(\hat{u}\)dateleI. Leningrad, Gidrometeorologicheskoe izd-vo, 1955. 296 p. illus., tables, maps, graphs. 22 refs. Text in Russian. Title tr.: Meteorology for hydro-meteorological observers.

Contains general information on meteorology with description of various measuring instruments: actinometers, pyranometers, heliographs, hydrometers, etc.; methods for basic meteorological observations; weather-forecasting methods with synoptic maps. Treatment of ground temperature includes frost and permafrost phenomena (p. 59-75); that of water vapor condensation includes definitions of such terms as glaze, hoarfrost, sleet, ice sheet, ice crystals, ice needles, etc. (p. 141-52). Snow cover characteristics and methods for their measurements are given (p. 190-205).

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48046. SKOTTSBERG, CARL JOHAN FREDRIK, 1880 - . On two collections of antarctic marine algae. (Arkiv för botanik, 1953. ser. 2, bd. 2, nr. 7, p. 531-66, 23 illus., plate.) 42 refs.

Includes comparative reference to species from Spitsbergen and the arctic in general.

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48047. SKROBOV, VASILIĬ DMIT-RIEVICH. Nuzhdy okhotnich'ego khozîlīstva Neneskogo nasional'nogo okruga. (Rasionalizatsifa okhotnich'ego promysla, 1956, vyp. 5, p. 58-64.) Text in Russian. *Title tr.:* Needs of the hunting industry of the Nenets National District.

This district furnishes 60 percent of the furs produced in Arkhangel'sk Province, though only 55 percent of the area; the strip of the Malozemel'skaya and Bol'shezemel'skaya Tundras adjacent to the Barents and Kara seacoasts, is used by hunters, while resources of the central part of these Tundras remain almost unexploited. The organization of hunting in the district, location of hunters' huts, means of transportation, dog driving, methods of hunting and trapping arctic fox and birds (ptarmigan) are discussed. The industry could be developed further, it is suggested, by collectivization of sled dogs, assignment of certain areas to collective farms, organization of special hunters' collectives and conservation of the arctic fox resources. At present, 56 kolkhozes are operating in the district; including 30 fishers' collectives and 16 reindeer-breeding farms; hunting is carried on by only 14 of the reindeer Copy seen: DLC. kolkhozes.

48048. SKROBOV, VASILIĬ DMIT-RIEVICH. Unichtozhafût faunu tundry. (Okhota i okhotnich'e khozfaftstvo, Mar. 1956, no. 3, p. 60.) Text in Russian. Title tr.: Depletion of tundra fauna.

Valuable bird and fur-bearer stocks are being depleted by illegal predatory hunting and trapping in Bol'shezemel'skaya and Malozemel'skaya Tundras and on Kolguyev Island. *Copy seen*: DLC. 48049. SKROBOV, VASILIĬ DMITRIE-VICH. Vyſavlenie s samoleta mest kontsentratsii belof kuropatki. (Ratsionalizatsiia okhotnich'ego promysla, 1956, vyp. 5, p. 141.) Text in Russian. *Title* tr.: Spotting concentrations of ptarmigan from aircraft.

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Reports successful ptarmigan survey carried out by the author in 1948 and 1949 in the Nenets National District on water meadows of the Pechora River: the birds, flushed by the low-flying airplane were easy to see and to count; large concentrations were readily spotted. Aerial survey of elk and arctic fox is noted as well.

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48050. SKUD, BERNARD EINAR. Length-weight relationship in migrating fry of pink salmon (Oncorhynchus gorbuscha) in Sashin Creek, Little Port Walter, Alaska. (Copeia, Aug. 19, 1955, no. 3, p. 204–207, diagr., 6 tables.) 5 refs.

Contains results of study to determine whether earlier (March) fry migrants are larger than the late (May), and thus have a better chance of survival. Data assembled on a monthly basis show weight of early migrants to be the greater. Possible factors which produce the lengthweight differences are: environmental, physiological and genetic.

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48051. SKUD, BERNARD EINAR. Salinity gradients in the intertidal zone of an Alaska pink salmon stream. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 73.)

Account of experiments aimed at determining "the degree of salinity to which pink salmon eggs and fry might be exposed." Spawning pens located at various levels of the intertidal zone were used for this purpose. The best survival was obtained from the upstream pens, which were least exposed to tidal water.

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48052. SKUGOROV, V. Na beregakh Eniseîa; pis'ma iz Sibiri. (Klub, Sept. 1956. god 6, no. 9, p. 4–5, illus.) Text in Russian. *Title tr.:* On the banks of the Yenisey; letters from Siberia.

Critical report on cultural and recreational facilities at the new Krasnoyarsk hydro-electric plant on the Yenisey River.

Copy seen: DLC.

48053. SKUGOROV, V. U Padunskogo poroga; pis'ma iz Sibiri. (Klub, Oct. 1956. god 6, no. 10, p. 12–13, illus.)

Text in Russian. Title tr.: At the Padunskiy narrows; letters from Siberia.

Criticism of club and other cultural facilities at the new Bratsk hydro-electric station on the Angara River.

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**48054.** SKY AND TELESCOPE. The Ahnighito weighs in. (Sky and telescope, Apr. 1956. v. 15, no. 6, p. 261, illus.)

Contains information on size and weight of this meteorite, 68,085 lb. or slightly over 34 tons. It is on exhibit at the American Museum—Hayden Planetarium, New York City. It was found by Peary in 1894 on Saviksoah Island off Cape York, northwest Greenland. The Eskimos pounded flakes of iron from it for cutting edges of harpoon points. A note by F. C. Leonard on the Ahnighito and the nearby falls appeared in Meteoritics 1956. v. 1, no. 4, p. 495–96.

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48055. SLADKOV, A. N. Morfologicheskoe opisanie pyl'tsy grushankovykh, vertlânitsevykh, vereskovykh, brusnichnykh i voronikovykh Evropeľskoľ chasti Sofuza SSR; dlia tselel pyl'tsevogo analiza. (Akademiía nauk SSSR. Institut geogra-Trudy, 1954. t. 61, Materialy po geomorfologii i paleogeografii SSSR, 11, p. 119-56, illus., tables, maps.) 47 refs. Text in Russian. Title tr.: Morphological description of the pollen of Pyrolaceae, Monotropaceae, Ericaceae, Vacciniaceae and Empetraceae of the European part of U. S. S. R. for purposes of pollen analysis.

Contains detailed description of grains or microspores of pollen of the genera and species of these plant families; their distribution is noted and shown on maps; most of the species are native to Kola Peninsula and/or other arctic regions of U. S. S. R.

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48056. SLATER, J. M. Choice of coordinate systems in inertial navigation. (Navigation, June 1956. v. 5, no. 2, p. 58-62, diagrs.) 7 refs.

Methods of inertial navigation are discussed particularly the choice of the system of coordinates. This problem is of importance in polar navigation since the conventional latitude-longitude system has certain disadvantages associated with the rapid convergence of meridians in high latitudes. The inertial navigator described reduces problems associated with polar flying since it requires no compass and the coordinate system can be

chosen so that its pole can be offset and not coincide with the earth's pole.

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48057. SLAUGHTER, PAGE H. Supporting far North operations. (Army information digest, July 1956. v. 11, no. 7, p. 2-10, illus.)

Activities of the Arctic Group of the U.S. Army Transportation Corps on the Greenland iceeap during the summer and winter of 1955 are described. Operations Eastwind Swing and Southwind Swing were conducted with military personnel of little or no previous arctic experience. Southwind Swing was a 60-day operation during the winter, in which a tractor train delivered 30 tons of fuel to site planned for a weather station. The operations demonstrated that heavy military equipment can be adapted to serve in routine operations for establishing military bases on the iceeap.

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48058. SLAVIN, S. V. Ékonomika Sibiri i osvoenie plavanil v Sibir' cherez Karskoe more v ėpokhu razvitifa kapitalizma v Rossii. (Leningrad. Universitet. Uchenye zapiski, no. 115, 1950. Fakul'tet narodov Severa, vyp. 1, p. 141–214.) Text in Russian. *Title tr.:* The economy of Siberia and beginning of navigation to Siberia through the Kara Sea in the period of the development of capitalism in Russia.

Outlines economic conditions in Siberia at the time of the abolition of serfdom in Russia (1861), and development in the 19th and first decades of the 20th century. The conflicting interests of various groups of Russian landowners, merchants and industrialists are indicated, and their attitude to the importation of foreign goods into Siberia by the Northern Sea Route duty free. First attempts at commercial voyages to the Ob' and Yenisey are sketched. Fluctuations of governmental policy and legislation, and the influence of the Siberian members of the State Duma are traced. The role of foreign investments in Siberia and in financing navigation of the Northern Sea Route is considered. World War II has had a favorable influence on development of the Northern Sea Route. This paper, based on published and unpublished materials, was delivered to the Northern Conference at Leningrad University, Dec. 10-14, 1947.

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48059. SLAVIN, S. V. Osobennosti khozíálstvennogo razvitiía ÍAkutskof ASSR, kak odnogo iz raľonov severa Aziatskof chasti SSSR. (Akademiía nauk SSSR. Izvestifa, serifa geograficheskafa, Mar.-Apr. 1956, no. 2, p. 6-16.) Text in Russian. *Title tr.:* Factors in the economic development of the Yakut A. S. S. R. as one of the northern regions of the Asiatic part of the U. S. S. R.

Summary of the author's chapter in a collective monograph prepared (but not yet published) by Yakut Expedition of the Academy of Sciences' Institute of Economics. The economic development and progress in industrializing Yakutia are outlined; limitations imposed by climatic conditions, lack of transportation and scarcity of population are stressed. The region is rich in natural resources: iron ore, coal, rare minerals, salt, forests, etc.; but their exploitation costs on the average 1.5-2 times that in regions with more favorable conditions. These resources therefore can be utilized only selectively and locally, as e. g., scarce or rare minerals, Olekminsk salt, Aldan iron ores and coal, etc. Prospects of further development are discussed, stressing the influence of the Northern Sea Route and of Tayshet - Ust'-Kut railroad

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48060. SLAVIN, S. V. Plavania cherez Karskoe more i russko-mongol'skie otnoshenia. (Letopis' Severa, 1949. t. 1, p. 284–87.) 9 refs. Text in Russian. *Title tr.*: The Kara Sea route and Russian-Mongolian relations.

In the early 20th century, competition from foreign merchants using sea routes, threatened to impair Russian commercial interests in Mongolia. Various plans were advanced to develop a route to Mongolia via the Ob' and Yenisey and the Northern Sea Route. Such plans, suggested in 1908 in a memorandum of 34 members of the State Duma headed by S. V. Vostrotin, were supported by Governor-General Knıazev and stressed in a paper delivered by V. M. Rodevich, an engineer; they were discussed at conferences on Russian-Mongolian matters, held in Irkutsk and Petersburg in 1912 and 1913. Copy seen: DLC.

48061. SLAVUTSKII, A. K. Bor'ba so snegom; bor'ba so puchinami. (In: E. V. Krutefskii and others: Dorogi i mosty. Moskva, 1952. p. 591–603, illus., diagr.) Text in Russian. Title tr.: Combat with snow; combat with heaving.

In a comprehensive work on roads and bridges, a section deals with methods of preventing snow accumulation and drifts. Illus. of fence arrangements, screens, shield, snow-block wall, brush wood, multi-row tree planting, etc., are included. Automotive snow removers of plow and rotary types are used for road maintenance. Combat with frost heaving is limited to snow removal, redirection of traffic, and covering till basic repairs can be made.

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a i i ·, 48062. SLEPTSOV, M. M. Biologiâi i promysel kitov dal'nevostochnykh morel. Pod red. S. E. Kleinenberga. Moskva, Pishchepromizdat, 1955. 63 p. illus., tables, maps. 85 refs. Text in Russian. *Title tr.:* Biology of the whales and whaling of the Far Eastern Seas.

Account of investigations conducted in 1948 and during 1951-1954 over an area including the Okhotsk, Bering and Chukchi Seas. The study covers taxonomic, biological, ecological and technologic problems, its successive sections dealing with: the species found in the area; their food; feeding areas; distribution; migration; propagation; catches of the area and their analysis (species composition, size, etc.) for the period 1933-1954; size and sex composition and changes in the catch; conclusions. The survey was made by branches of the Academy of Sciences and the Ministry of Fisheries. Boats of the whaling fleet Aleut were used in the Copy seen: DLC. survey.

SLESSER, C. G. M., see Paterson, W. S. B., and C. G. M. Slesser. Trigonometrical levelling . . . inland ice in North Greenland. 1956. No. 47272.

48063. SLETTENMARK, GUSTAF. Axel Wallén. Lund, C. Blom, 1935. p. 208–217, port. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, serien uppsatser, no. 2.) Text in Swedish. Summary in English.

Contains biographical sketch of the noted Swedish meteorologist, died Feb. 24, 1935, at 58 years of age; Wallen, Ph. D. of Upsala University (1906) was appointed first director of the Swedish Meteorological and Hydrological Office in Sweden in 1918. His editorship of Geografiska annaler from 1919, his manysided scientific interests, activity in Swedish and international organizations are stressed. His main publications are stated in the text. Copy seen: DWB.

48064. SLETTENMARK, GUSTAF. Kartor över vattenmängden och sjöprocenten i Sverige. Stockholm, 1929.
7 p. 4 fold. maps, tables. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, bd 4, no. 5.) Text in Swedish. Summary in French. Title tr.: Maps of water volume and lake percentage in Sweden.

The mean discharge of water courses in Sweden with a discharge of at least 5 cu. m./sec. is mapped. The 14 largest rivers, among them the Torne, Kalix, Råne, Lule and Pite systems in the far North, with a mean discharge of at least 100 cu. m./sec. and a basin of at least 10,000 sq. km. contribute 74 percent of the total flow. Maps are also given showing max. and min. flows as well as the percentage area covered by lakes in the various basins.

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48065. SLETTENMARK, GUSTAF. De svenska flodernas vattenmängder. Stockholm, 1925. 56 p. 6 plates incl. 1 fold., tables. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, bd. 3, no. 5.) Text in Swedish. *Title tr.:* The volume of Swedish rivers.

Tabulated measurements from 187 stations on 41 drainage systems are presented, including the Torne, Kalix, Råne, Lule and Pite river systems. Area of drainage basins and tributary lakes, average monthly and annual volumes of flow and certain maximum and minimum volumes are given. Drainage volume in liter/sec/km² for the lowest 6- and 9-months' flow, and the lowest low water are available for certain gauge stations.

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48066. SLOBODENTUK, N. D. O kachestve pushniny sovkhozov severozapadnykh rafonov. (Karakulevodstvo i zverovodstvo, Nov.—Dec. 1956. god 9, no. 6, p. 38–40, tables.) Text in Russian. Title tr.: The fur quality of the sovkhozes of the northwestern areas.

Contains an evaluation of the furs delivered in 1955 to the Leningrad factory, especially those of blue foxes. Attainments of individual sovkhozes, comparisons with the previous year, quality and defects are discussed. Silver fox and mink fur are also dealt with.

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SLOCUM, HARVEY C., see Rink, R. A., and others. The effect of hypothermia on morphine metabolism. 1956. No. 47593.

SLUDSKAÍA, N. N., see Semenov, E. I. Vinogradovit . . . 1956. No. 47893.

48067. SMED, JENS. Drivende is-øer i Polhavet. (Naturens verden, København, 1954. årg. 38, hefte 4, p. 115-25, 7 illus., 2 text maps.) 8 refs. Text in Danish. *Title tr.:* Floating ice islands

in the polar sea.

Recounts the discovery of T1, T2, and T3 by radar and aerial photography (dates and coordinates given). Their origin off Ellesmere Island, area, and surface features are noted, and the paths of their drifts are mapped. Ice islands sighted earlier by explorers including Takpuk Island in Beaufort Sea are mentioned. Investigations of the islands and their scientific uses are discussed.

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**48068. SMED, JENS.** Monthly anomalies of the surface temperature in areas of northern North Atlantic in 1954. (International Council for the Exploration of the Sea. Annales biologiques 1954, *pub.* 1956. v. 11, p. 11–13, tables, maps.)

Contains report on monthly anomalies of surface temperatures in this area, which includes Davis Strait and Denmark Strait. Ryder's grand monthly means for 1876–1915 are used as standards; conditions are compared with those of 1954.

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48069. SMELOV, S. P. Povysit' urozhaĭnost' prirodnykh senokosov i pastbishch. (Nauka i peredovoĭ opyt v sel'skom khozāīstve, May, 1956. god 6, no. 5, p. 37–39.) Text in Russian. *Title tr.*: Raising the productivity of natural meadows and pastures.

Includes notes on the herbicide 2-4D, controlling the growth of tree seedlings (birch, alder, willow) in meadows and pastures; the preparation has been successfully tested in the central provinces also in the far North. Copy seen: DLC.

48070. SMETANIN, D. A. Ob ofsenke produktsii organicheskogo veshchestva v nekotorykh ratonakh Beringova i Okhotskogo morel. (Akademia nauk SSSR. Institut okeanologii. Trudy, 1956. t. 17, p. 192–203, illus., tables, maps.) 12 refs. Text in Russian. Title tr.: Estimates of organic material production in some areas of the Bering and Okhotsk Seas.

Account of studies on the fertility of inshore and open waters by chemical

methods. The balance of P-compounds and organic C content were used as criteria. In addition to seasonal differences, such between the inshore and open waters were established. The southern open waters of the Okhotsk Sea showed greater "harvest" than those of the Bering Sea, and areas of intensive water mixing showed high productivity in both seas.

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SMIRNOV, A. P., see Breitfus, L. L. Trudy Murmanskoi nauchno-promyslovoi ėkspeditšii 1906 goda . . . 1915. No. 44128.

48071. SMIRNOV, A. S. Raschetnafa velichina modulfa deformatšii gruntovykh osnovanii fšementobetonnykh pokrytii. (In: Moskva. Avtomobil'no-dorozhnyi institut. Opredelenie modulfa deformatšii gruntov, 1955. p. 42–58, illus., graphs, tables.) Text in Russian. Title tr.: Rated value of modulus of deformation in ground beds for concrete road surfaces.

The importance of the modulus of deformation in the design of roads, airfield runways and courts within the industrial installations, is discussed including theoretical considerations and practical examples. The value of modulus must reflect the complex of natural conditions of the given area (geological, hydrological, climatic and soil conditions), especially the type of deformation under actual load. This value affects the thickness and type of surface and its longevity in service. Field tests on local soils are essential and the test method is described in detail, including tabulated values for different types of soil. Variations of the modulus for wet, frozen and thawed grounds are analyzed. Determination of the rated value of the modulus of deformation of ground beds and different surface layers is explained on the basis of experimental values for different soils and degrees of wetness. Moduli of elasticity and deformation for rapidly applied loads of moving vehicles can be computed from data obtained for slowly increasing loads. Copy seen: DLC.

48072. SMIRNOV, G. F. Metody obogashcheniû lovchorrita. (*In*: Khibinskie apatity, 1933. t. 6, p. 118–30, 23 tables.) Text in Russian. *Title tr.:* Methods of lovchorrite concentration.

Components of lovehorrite and their technology are described, its rare earth content is 15–30 percent, includes thorium and cerium. Thorium is used in the radio

industry, light devices, as catalyzer in chemistry, medicine and photography. Cerium is essential as the additive to pyromorphous alloys, as chemical catalyst, in metallurgy, photography, etc. Mineralogical characteristics, results of concentration, etc., are given in (23) tables, including results of wet process, magnetic separation and flotational processes.

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**48073.** SMIRNOV, G. F. Obogashchenie titanita (sfena). (*In:* Khibinskie apatity, 1933. t. 6, p. 160–63.) Text in Russian. *Title tr.:* Concentration of titanite (sphene).

Ore processing from the Kukisvumchorr deposits is described, with indication of difficulties in increasing concentration suitable for lacquer industry production. Sixty percent titanium extraction is obtained from concentrate of 32 percent TiO<sub>3</sub>. Processed ore contains 35 percent sphene, 35 percent nepheline, and the balance apatite. The magnetic and flotation methods are used for recovery from the concentrates. Copy seen: DGS.

SMIRNOV, M. see Andronnikov, M., and others. L'extrême-nord soviétique . . . 1955, No. 43668.

48074. SMIRNOV, V. U Padunskogo poroga. (Smena, Mar. 1956. god 33, no. 5, p. 4–5, illus.) Text in Russian. Title tr.: At the Padunskiy rapids.

Describes life and construction work at the hydroelectric station on the Angara River at Bratsk. Rich natural resources of the Angara and Yenisey basins are noted. Copy seen: DLC.

48075. SMIRNOVA, L. I. O fitoplanktone severo-zapadnoľ chasti Tikhogo okeana. (Akademifa nauk SSSR. Doklady, July 21, 1956. t. 109, no. 3, p. 649–52, 2 illus., 2 tables.) 6 refs. Text in Russian. *Title tr.:* The phytoplankton of the northwestern section of the Pacific.

Based partly on material obtained during the 19th complex expedition of the Institute of Oceanology on the research vessel Vitiāz', Aug.—Oct. 1954, in the region of the Kuril-Kamchatka trench. Tabulated data are given on ecological complexes of the fauna, represented by 131 species (diatoms 58 percent, peridinia 38 percent, and algae 4 percent). Typical species in the complexes are listed

with data on frequency and water temperature. Copy seen: DLC.

SMIRNOVA, ZOÍA NIKOLAEVNA, 1898– , see Abramova, A. L., and Z. N. Smirnova. L. I. Savich-Lîubitskafa . . . 1956. No. 43480.

**48076. SMIT, F. G. A. M.** Redescriptions of fleas described by Nordberg in 1935. (Opuscula entomologica, 1956. bd. 21, häfte 2–3, p. 132–46, 17 illus.) 8 refs.

Contains redescriptions of three valid species of fleas from Finland, as the original descriptions (No. 12397) do not meet present-day requirements. Two of them Frontopsylla (Orfrontia) lapponica and Ceratophyllus riparius freyi, are from Karesuando in Finnish Lapland.

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48077. SMITH, AUDREY URSULA. Experimental hypothermia in animals. (Lectures on the scientific basis of medicine, 1955–56. v. 5, p. 19–35, illus.) 40 refs.

Information is presented on the study of the biological effects of cold, in the past three hundred years; cold adaptation in young and small mammals; resistance to freezing in cells and tissues; hypothermia and its use in surgery; freezing of mammals by author and others; problem of frostbite.

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48078. SMITH, AUDREY URSULA, and R. K. ANDJUS. Resuscitation of hypothermic, supercooled and frozen mammals. (In: Conference on Cold Injury. 5th, Nov. 7-9, 1955, Princeton, N. J. Transactions, pub. 1956, p. 225-79, illus., table.) 26 refs.

A comprehensive account of the authors' investigations on freezing and reviving various mammals, including information on methods of rewarming; effect of freezing on retention and learning; effects and limits of repeated cooling; duration of freezing and survival in rats and hamsters; cooling and its effect on spontaneous rewarming and temperature control; blood chemistry in the frozen animals; possible practical application of present findings; gross and microscopic aspects of deep cooling; supercooling and freezing and their varied aspects and effects; biophysical aspects of the freezing process in these animals; theoretical considerations; effect of freezing on liver and digestive system; effect of freezing on pregnancy and development of embryos. Copy seen: DLC.

48079. SMITH, AUDREY URSULA. Resuscitation of hypothermic, supercooled and frozen mammals. (Royal Society of Medicine, London. Proceedings, 1956. v. 49, no. 6, p. 357–58.) 13 refs.

Contains information on the nature and physiology of hibernation and awakening from it; hypothermia in hibernators and in other mammals; in the newborn; deep hypothermia and resuscitation from it; freezing of cells; supercooled and frozen mammals and their recovery.

Copy seen: DNLM.

48080. SMITH, AUDREY URSULA. Studies on golden hamsters during cooling to and rewarming from body temperatures below 0° C. 1; observations during chilling, freezing and supercooling. (Royal Society of London. Proceedings, ser. B., 1956. v. 145, no. 920, p. 391–407, illus., tables.) 36 refs.

A study of 300 animals, made hypothermic in stages, to a core temperature of -5° or -6° C. Temperature fall in the colon, thorax, brain, muscle, etc.; electrocardiograms; heart beat; respiration; spontaneous movements; muscle tone; etc.; as well as incidence of freezing and supercooling were recorded.

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48081. SMITH, AUDREY URSULA. Studies on golden hamsters during cooling to and rewarming from body temperatures below 0° C. 2; observations during and after resuscitation. (Royal Society of London. Proceedings, ser. B, 1956. v. 145, no. 920, p. 407–426, illus., tables.) 13 refs.

Account of resuscitation of hypothermic animals which have been "for many minutes or hours" without respiration or circulation, and some frozen for 50 minutes or more to  $-5^{\circ}$  C. Of rewarming methods applied, diathermy proved the most effective; the duration of suspended animation and of freezing also influenced the course and proportion of survival, animals which have supercooled, reviving to live for many weeks or months. Also a great proportion of animals which froze progressively, up to 50 minutes "survived indefinitely." Frostbite and eye injuries were rare and no changes in behavior were noticed 100-450 days after Copy seen: DNLM. resuscitation.

SMITH, AUDREY URSULA, see also Andjus, R. K., and others. Effects of hypothermia on behaviour. 1955. No. 43642.

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SMITH, AUDREY URSULA, see also Andjus, R. K., and A. U. Smith. Reanimation of adult rats from body temperatures between 0 and 2° C. 1955. No. 43643.

SMITH, AUDREY URSULA, see also Andjus, R. K., and others. Resuscitation . . . hypothermic, supercooled and frozen mammals. 1956. No. 43645.

SMITH, AUDREY URSULA, see also Goldzveig, S. A., and A. U. Smith. The fertility . . . after . . . hypothermia. 1956. No. 45164.

SMITH, AUDREY URSULA, see also Goldzveig, S. A., and A. U. Smith. A... method for reanimating ice-cold rats and mice. 1956. No. 45165.

SMITH, AUDREY URSULA, see also Lovelock, J. E., and A. U. Smith. Studies . . . hamsters . . . cooling . . . rewarming . . . 0° C., 3 . . . 1956. No. 46449.

48082. SMITH, C. N., and others. Insects affecting man and animals in Alaska, faunal and control studies. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 199-200.) Other authors: W. C. McDuffie, and R. I. Sailer.

Summary of work carried on, summers 1947 through 1951, to determine extent of insect problems and effectiveness of insecticides and repellents. Information on mosquitoes, their distribution and development; black flies especially the biting species; punkies; horse and deer flies, also other flies. Application and results of various insecticides are stated for black flies and mosquitoes. Repellents (ten on skin, 35 on clothing) were also tested.

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SMITH, DAVID D., see Howard, A. D., and D. D. Smith. Studies . . . erosion surfaces . . . 1956. No. 45623.

48083. SMITH, EDWARD D. Effects of B vitamins and liver on survival time under cold room and room temperature conditions. Thesis, University of Southern California, 1948. 7 p. tables. 2 refs.

Account of experiments with female rats kept at 2° and 23° C. Reducing the caloric intake by one third affected the first group significantly more, insofar as loss in weight and length of survival were

concerned. Addition of liver to the (synthetic) diet had no effect on the results of the cold-exposed animals.

Copy seen: AMAU.

SMITH, ERIC, see Williams, P. J., and others. Preliminary report . . . solifluction and patterned ground . . . Norway. 1956. No. 48963.

48084. SMITH, H. P. RUFFELL, and others. Cold weather trials, Norway, 1950. Farnborough, Hants., R. A. F. Institute of Aviation Medicine, Apr. 1950. 40 l. incl. 16 l. photos. (Its: Flying Personnel Research Committee, FPRC 731) Photostat. Other authors: A. J. Barwood, and D. G. V. Whittingham.

Experimental cold weather clothing designed for use in northern Canada was tested under the wet, cold conditions of southern Norway at Tisleia Fjord from Feb. 21-Mar. 5, 1950. Comments on the efficiency and suggestions for improvement are given for each item. Survival equipment and rations were also tested. Improvised shelters were constructed including a parachute tent and an igloo. Landings were made with Mosquito fighter planes on ice and snow runways under cross-wind conditions up to 30 knots from 40° and a Cornell aircraft was flown on skis. Results indicate that acclimatized personnel are necessary for successful flying and maintenance operations in the Arctic. Copy seen: AMAU.

**48085. SMITH, H. W.,** and **W. R. BULL.** Uranium ore research. (Canadian mining journal, June 1956. v. 77, no. 6, p. 127–30, 159–60.) 3 refs.

Includes (p. 127-28) description of process research initiated by the Canadian Dept. of Mines in 1945 to improve the overall recovery of the mill at the Port Radium mine of Eldorado Mining & Refining Ltd., Great Bear Lake. Results of physical concentration work indicated a chemical treatment necessary to get maximum recovery from ore and salvage uranium in stored tailings. Development of acid leach and precipitation processes is described. Eldorado built a ten ton/day pilot to treat the gravity mill tailings.

\*\*Copy seen: DGS.\*\*

SMITH, HARRIET G. BROWN, 1923- , see Wallace, J. H., and H. G. B. Smith. Bibliography . . . trace elements . . . 1955. No. 48841.

48086. SMITH, HARRY BUCHANAN. The use of polar ice in inter-hemispheric

air operations. Washington, D. C., June 1956. vii, 238 l. illus., diagrs., tables, text maps. Typescript. (Dissertation submitted to Georgetown University for the degree of Master of Arts.) Approx. 100 refs.

Contains a strategic analysis of the Arctic based on the so-called Polar Concept, which postulates that in a major war of the foreseeable future, air strikes will transit the Arctic Basin, air and missiles defenses must be based in the Arctic, hence the belligerents must have the capability of carrying out military operations under conditions peculiar to the Arctic. Meteorological, geographical, and physical factors peculiar to the area are reviewed, including the history, formation, and characteristics of ice islands. North American Arctic flying, weather stations, maintenance and navigation problems, and some transpolar flights are sketched. Soviet Arctic flying and major expeditions from Drifting Station North Pole 1 to 1954 are reviewed. The logistic support of military forces operating on or from the Arctic Ocean ice is examined, and observations are made on how sites may be selected and construction carried out. Legal questions with respect to sovereignty in the Arctic, which must be understood in connection with a program of construction of air sites, are studied. Conclusion is drawn among others, that vast areas of ice upon which to construct light airstrips are available throughout the Arctic Basin; useful and effective small units can be designed, formed, deployed, and supplied in almost innumerable locations throughout the Arctic for such purposes as radar, weather, and navigational aid stations; emergency strips for long range bombers; base sites for limited numbers of long-range penetration fighters or reconnaissance aircraft; mid-course guidance stations for intercontinental missiles.

Copy seen: DGU (Thesis 1472).

48087. SMITH, J. Some moving soils in Spitsbergen. (Journal of soil science, Jan. 1956. v. 7, no. 1, p. 10-21, diagrs., table, text map, plate.) 16 refs.

Report of a reconnaissance soil survey carried out by the Aberdeen Spitsbergen Expedition, headed by Dr. E. A. Fitzpatrick in July-Aug. 1954, with base at Moskushamn. It covered an area of 160 sq. km. Studies were made of the structure and composition of structural soils and ground ice. Factors active in

soil formation and movement are examined, and resulting forms are described, including rock outcrops, scree, striped soils, solifluction soils, polygons, peat, and other soil catenas. Each surface marking characterizes a given site and can therefore be used to identify the soil profile beneath. Each form is thought to be derived from that occurring higher upslope. The quantity of ice in permafrost depends on the texture and water content of the active layer and varies from 85 percent in silty clay to 10 percent in frozen sand. Greatest active layer depth was 130 cm. in striped soil, compared to 35 cm. in coarse rock debris. The soil forms observed are classified according to Kellogg and Nygard (cf. No. 23182), and Kubiens. Copy seen: DLC.

48088. SMITH, JAMES H. Engineering science and the public. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub.* 1956, p. 67–68.)

Stresses leadership in engineers' role in society. Copy seen: DGS.

48089. SMITH, JOHN BERNHARD, 1858-1912. Contribution toward a monograph of the insects of the lepidopterous family Noctuidae, of temperate North America. Revision of the species of the genus Agrotis. Washington, D. C., U. S. Govt. Print. Off. 1890. iv, 237 p. 5 plates. (U. S. National Museum. Bulletin, no. 38.)

Contains discussion and a synopsis of the genus and its groups, synopses of the species, and a systematic list of about 300 species and varieties, of which 16 are new. Synonyms, descriptions, measurements and data on habitat and distribution are given, and 17 of the species are recorded in Alaska, northern Canada and Greenland.

Copy seen: DLC.

48090. SMITH, PHILIP WAYNE, 1921— . The status, correct name, and geographic range of the boreal chorus frog. (Biological Society of Washington. Proceedings, Dec. 31, 1956. v. 69, p. 169-76, text map, 2 tables.) 16 refs.

Contains a discussion of the status of this frog, and a rediagnosis of Pseudacris nigrita maculata, a northern race of P. nigrita allied and very close to P. n. triseriata; diagnostic proportional characters of these subspecies are compared, and data given on variation and range. Locality records include northern Mani-

toba, southern border of Hudson Bay and the James Bay region.

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SMITH, R. L., see Helliwell, R. A., and others. The "nose" whistler . . . 1956. No. 45509.

**48091. SMITH, RICHARD AUSTIN.** Alaska, "the last frontier." (Fortune, Sept. 1955. v. 52, no. 3, p. 104–113, 136+, illus. (2 col.), col. map.)

Contains photographs and description of Alaska as "99 percent pure bureaueracy." Ill effects of continued federal stewardship are stressed. Politics, industry, business activities, social conditions are surveyed. Recommendations are offered on control of fisheries and unreserved lands, construction of highways and harbors, modernization of the Organic Act of 1912. Transfer of powers to the Teritorial government is claimed essential to development of Alaskan resources. Map shows national forests and parks, military establishments, other reserved land, highways, and railroads.

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48092. SMITH, RODNEY T. Electrolyte studies in experimental animals during hypothermia. (American journal of surgery. Aug. 1956. v. 92, no. 2, p. 228–32, illus., tables.) 5 refs.

Account of observations on dogs made hypothermic to 25°-22° C. and rewarmed. Heart rate, mean arterial presures, number of platelets and white cells, all decreased at low temperature. Serum potassium concentrations greatly increased prior to ventricular fibrillation; prolonged acidosis or alkalosis did affect this increase.

\*\*Copy seen: DNLM.\*\*

SMITH, S. G., see Drury, H. F., and S. G. Smith. Alaskan wild plants . . . emergency food source. 1956. No. 44663.

SMITH, WILLIAM J., Jr., see U. S. Office of Naval Operations. Canadian North. 1956. No. 48635.

48093. SMITT, ANTON. Hvilke treslag og provenienser bør vi bruke i våre kyststrøk? (Norske skogplanteskoler. Arsskrift, 1953. p. 45-68, 3 diagrs.) Text in Norwegian. Title tr.: Trees of which species and from what source should we use in the coastal districts?

Discusses the practicability of importing seed or seedlings from other countries: climatic, topographic, and geologic fac-

tors in sections where trees are to mature must be considered; varieties and numbers must be evaluated from viewpoint of growth and economy. Conditions and varieties in arctic Norway are included in the discussion.

Copy seen: DA.

48094. SMITT, FREDRIK ADAM, 1839–1904. Kritisk förteckning öfver Skandinaviens hafsbryozoer. (Svenska vetenskapsakademien. Öfversigt af förhandlingar, 1865. Årg. 22, no. 2, p. 115–42, 6 illus., fold. table.) Text in Swedish. Title tr.: Critical notes on Scandinavian marine bryozoans.

Contains a critical revision of some twelve species and forms, among them Crisia eburnea from Finnmark waters, C. acuteata from Svalbard and C. arctica native to Greenland Sea and Svalbard waters.

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SMOLIAK, A. V., see Ivanov, S. V., and others. Nanaitsy. 1956. No. 45738.

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SMOLĀK, A. V., see also Ivanov, S. V., and others. Negidal'tsy. 1956. No. 45739.

SMOLIAK, A. V., see also Ivanov, S. V., and others. Nivkhi. 1956. No. 45740.

SMOLÍAK, A. V., see also Ivanov, S. V., and others. Orochi. 1956. No. 45741.

SMOLÍAK, A. V., see also Ivanov, S. V., and others. Oroki. 1956. No. 45742.

SMOLIAK, A. V., see also Ivanov, S. V., and others. Udegettsy. 1956. No. 45743.

SMOLIAK, A. V., see also Ivanov, S. V., and others. Ul'chi. 1956. No. 45744.

SMOLIAK, A. V., see also Vasilevich, G. M. Évenki. 1956. No. 48693.

SMOLIAN, A., see Rytkhėu, IŪ. Posledniaia iaranga. 1956. No. 47723.

SMOLIN, N. I., see Vasiliskov, P. A., and others. Izuchenie zazhorov . . . 1956. No. 48695.

SMOLIN, P. P., see Shereshevskil, É. I., and P. A. Petríaev. Spravochnik okhotnika-poliarnika. 1949. No. 47940.

48095. SMOL'NIKOV, V. L. Gololednye obrazovanifa na okhlazhdafushchikh us-

troistvakh transformatorov. (Énergetik, Aug. 1956. god 4, no. 8, p. 25–27, illus.)
Text in Russian. Title tr.: Glaze deposits on transformer cooler fan grills.
Complications in transformer operation due to ice formation on the fan grills is described. Air restriction through fan suction causes overheating of the transformer. Larger grill passages are recommended.

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SMUKLER, NATHAN M., see Penneys, R., and N. M. Smukler. Changes . . . intra-articular temperature . . . knee . . . 1956. No. 47302.

SNELL, E. S., see Gerbrandy, J., and others. De mond-temperatuur. 1955. No. 45078.

48096. SNODGRASS, JAMES MARION, 1908-, and A. F. RICHARDS. Observations of underwater volcanic acoustics at Bárcena Volcano, San Benedicto Island, Mexico, and in Shelikof Strait, Alaska. (American Geophysical Union, Feb. 1956. Transactions, v. 37, no. 1, p. 97-104, illus., diagrs., map.) 8 refs.

Describes studies at Bárcena Volcano Nov. 1952–May 1955, with magnetic tape recordings, and a three-station listening survey across Shelikof Strait, between Kodiak Island and the Alaskan Peninsula. The survey, undertaken to record sounds from active Mt. Trident volcano in the Valley of Ten Thousand Smokes, was unsuccessful due to inadequate recording time.

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SNOW, CHARLES E., see Sanders, I. T. Societies around the world. 1956. No. 47782.

48097. SNYDER, FREDRICK MAR-HOFF, 1913— An abnormal specimen of *Hylemyia hinei* Malloch with notes on synonymy and distribution; Diptera, Muscidae. (Entomological news, Oct. 1937. v. 48, no. 8, p. 216–17; illus.)

The species was originally described from Savonski, Naknek Lake, Alaska, from material collected by J. S. Hines. *Copy seen:* DA.

48098. SNYDER, LAURENCE HAS-BROUCK, 1901- . Genetics and the study of human populations. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 6–11.) 15 refs.

Contains information on population genetics in the first half of this century;

blood group genetics; Mendelian genetics, their application and limitations in population studies; genic differences of human populations; polygenes, etc. The significance of Alaska for genetic population studies is stressed.

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SOBERMAN, R. K., see Neuburg, H. A. C., and others. High-altitude cosmic ray . . . geomagnetic pole. 1955. No. 46991.

SOBOLEV, I. I., see Konstantov, S. V., and I. I. Sobolev. Pirrotinovye mestorozhdeniî a. . . Khibinskikh tundr. 1933. No. 46068.

48099. SOBOLEV, S. S., and I. F. SADOVNIKOV. Bor'ba s vodnol i vetrovol ėroziel pochv v SSSR; k itogam shestogo Vsesoūznogo soveshchanifa pobor'be s ėroziel pochv 12–16 dekabrfa 1955 g. v Moskve. (Pochvovedenie, July 1956, no. 7, p. 18–29, fold. map.) Text in Russian. Title tr.: Controlling water and wind erosion of soils in the U. S. S. R.; results of the 6th All-Union Conference for control of soil erosion, in Moscow, Dec. 12–16, 1955.

Brief account of proceedings of the Conference and summary of control measures proposed. Folded map of soil erosion in U. S. S. R. includes arctic and sub-arctic areas. Copy seen: DLC.

48100. SOCHAVA, VIKTOR BORISO-VICH. Izuchenie flory i rastitel'nosti. (In: Obruchev, S. V. Spravochnik puteshestvennika, t. 2, 1950. p. 463-96, illus., diagrs.) 18 refs. Text in Russian. Title tr.: The study of flora and vegetation.

Contains instructions for field study of vegetation: equipment, methods of observation, collecting of specimens, field work and geobotanical trips, characteristics of the plant cover, plant associations; forest, meadow, steppe, desert and tundra (p. 483) vegetation; useful plants. Geobotanical mapping and zoning are explained (p. 490-95) and illusby plan of Malaya Pechora River valley.

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SOCHAVA, VIKTOR BORISOVICH, see also Akademiâ nauk SSSR. Botanicheskil institut. Rastitel'nyi pokrov SSSR... Botanicheskaîa karta SSSR... 1956. No. 43520.

48101. SØLVER, CARL V. Vestervejen om vikingernes sejlads. København, I. C. Weilbach, 1954. 136 p. illus., port., maps, tables. Text in Danish. Summary in English. 31 refs. *Title tr.:* Westward as the Vikings sailed.

Discussion of Viking methods of navigation, use of a lodestone compass and bearing dial, knowledge of latitude and longitude. Voyages to Iceland, Greenland and the North American coast are noted, but attention mainly is given to Viking and other maps of the North Atlantic - arctic regions.

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48102. SØRENSEN, CLAUS. Nogle bemaerkninger til "Af et forhenværende monopols saga". (Grønland, Dec. 1956, nr. 12, p. 468–71.) Text in Danish. Title tr.: Some comments on "From the saga of a former monopoly" [by Ebbe Groes, q. v.].

Why private enterprise, apart from traders, artisans, etc., shuns Greenland: excessive control exercised by the Greenland Trading Company, regulation that the entrepreneur must live in Greenland, etc.

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SØRENSEN, H. R., see Hensen, A. T., and others. Measurement of coronary blood flow . . . krypton 85. 1956. No. 45425.

48103. SØRENSEN, HENNING. Uran og thorium; mulighederne for forekomster af disse to metaller i Vestgrønland. (Grønland, June 1956, nr. 6, p. 217–26, illus.) Text in Danish. *Title tr.:* Uranium and thorium; the possibility of these two metals occurring in West Greenland.

Occurrence of uranium and thorium is described generally, also methods of locating them. Finds of radioactive minerals in Greenland are small so far and of no commercial value.

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48104. SØRENSEN, HENNING. Xonotlit fra Grønland. (Dansk geologisk forening. Meddelelser, Jan. 1956. bd. 13, hefte 2, p. 85-86, table.) 3 refs. Text in Danish. Summary in English. Also pub. as: Greenland. Geologiske undersøgelse. Miscellaneous paper, no. 15. Title tr.: Xonotlite from Greenland.

From Nugssuaq, 70°25′ N. 52°30′ W., in West Greenland, Rink (No. 14611) mentioned an asbestos-like okenite occurring in fractures in the much altered basalt. The mineral was found to be wollastonite; but the optical properties,

do not agree very well with those of other wollastonites, since all fibers have positive elongation. The powder X-ray diffraction pattern of the mineral showed it to be xonotlite. **Copy seen:** DGS.

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SØRENSEN, HENNING, see also Norsk geologisk tidsskrift. Second Nordic Geologic . . . meeting . . . 1956. No. 47080.

48105. SØRENSEN, JANUS. Den arktiske forsknings pionerer. (Grønland, June 1956, nr. 6, p. 201–216, illus., ports.) *Title tr.:* The pioneers of arctic exploration.

Translation into Danish of the article They paved the way from R. A. Howard's Down in the North (No. 29712), giving short historical notes on arctic expeditions during the last hundred years. A section by Sørensen is added (p. 212–16): Track af danske ekspeditioners indsats i Grønlands udforskning: An outline of the contribution of Danish expeditions to the exploration of Greenland.

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SOKIĆ, PAVLE, see Đaja, I., and others. Hipotermija . . . 1956. No. 44529.

48106. SOKOLOV, A. A. Gidrografia SSSR, vody sushi. Leningrad, Gidrometeorologicheskoe izd-vo, 1952. 471 p. illus., tables, graphs, maps incl. fold. 69 refs. Text in Russian. *Title tr.*: Hydrography of the U. S. S. R., land waters.

Text book approved by the Main Administration of Hydrometeorological Services of the U.S. S. R. for hydrometeoro-

logical colleges. Introductory chapters (p. 11-56) review the study of waters of the U.S.S.R. and development of the hydrographic net. Fundamentals of the river net, lakes and reservoirs, marshes, contemporary glaciers, and permafrost, are presented in successive chapters (p. 56-113). Basic data of river systems including those of the North, are given in tables 5-6 and charts 11-13. Water balance and hydrological zones of the U.S.S.R., water, thermal and ice regimes of rivers, etc., are dealt with (p. 113-88). The main natural regions of the U.S.S.R. are treated in turn, including Karelia and Kola Peninsula (p. 189-207), northern European U. S. S. R. (p. 207-245), western and eastern Siberia (p. 379-445) and Kamchatka (p. 460-63). For each region, the climate, terrain, general hydrology, the main river systems and lakes are characterized, with basic (though not, usually, recent) data graphed and tabulated. Copy seen: DLC.

48107. SOKOLOV, ALEKSANDR ALEKSEVICH. Osnovnye polozhenia poverkhnostno-posloinogo sposoba dobychi kuskovogo torfa s pomoshch'ū člektrifitsirovannogo samokhodnogo torfanogo kombaina, ÉSTK. (Akademia navuk BSSR, Minsk. Instytut torfa. Trudy, 1955. t. 4, p. 91–95, table.) Text in Russian. Title tr.: Basic conditions for the surface-layer method of excavating peat pieces by means of the electrified self-operating peat combine, ESTK.

A new method for excavation of successive surface layers of peat (cf. No. 45188) is discussed, stressing moisture condition (76-82 percent) permissible for formation and safe handling of peat products during the additional drying All intermediate processes required for production of final peat shapes are incorporated in one automatic combine-machine. It excavates, cuts, crushes, mixes, compresses and forms the continuously flowing mass (with a warmpress), cuts it into bricks or cylinders, arranges them on the ground for final Physical characteristics of the combine and the rates of production are tabulated. Copy seen: DLC.

SOKOLOV, ALEKSANDR ALEKSEE-VICH, see also Bezzubov, N. D., and A. A. Sokolov. Dobycha kuskovogo torfa mashinoĭ MPDK. 1955. No. 44019.

48108. SOKOLOV, B. S. Novye siringoporidy Taïmyra. (Moskovskoe obshchestvo ispytateleï prirody. Bîûlleten', 1947. god 118, otdel geologicheskil, t. 22, no. 6, p. 19–28, illus.) 17 refs. Text in Russian. *Title tr.:* New Syringoporacea from Taymyr.

Contains description of eight forms of these fossil corals belonging to four genera; seven of the forms are new; all are found in the Lower Carboniferous deposits, most of them on the Karulakh-Bigay and Tareya Rivers of Taymyr Peninsula.

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48109. SOKOLOV, B. S. Podklass Tabulata - tabulîâty. (*In*: Leningrad. Vsesofîznyî geologicheskiî institut. Polevoï atlas ordovikskoĭ i siluriĭskoĭ fauny Sibirskoĭ platformy, 1955. p. 25–34, illus.) Text in Russian. *Title tr.*: Subclass Tabulata.

A description of these extinct paleozoic colonial corals, their ecology, present stratigraphic significance, etc. Fifteen species are described and illustrated, some from North America. *Copy seen:* DLC.

48110. SOKOLOV, N. E. Nachalo rabot na seismicheskoi stantsii v s. Klüchi na Kamchatke. (Akademiä nauk SSSR. Kamchatskaä vulkanologicheskaä stantsiä. Bülleten', 1949, no. 16, p. 20–21, tables.) Text in Russian. Title tr.: Beginning of work on the seismic station in the village of Klyuchi on Kamchatka.

The station located on southeast side of the village, 200 m. from the Volcanological Station, is equipped with two P. M. Nikiforov horizontal seismographs, two collimators and one registering apparatus, all made by the Seismological Institute of the Academy of Sciences. The station's work began on Dec. 29, 1946 registering weak tremors, and on Jan. 24 and Feb. 27, 1947, seismic shocks which probably originated in volcanic earthquakes with epicenter in the vicinity of Klyuchevskiy Volcano some 40–30 km. distant.

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48111. SOKOLOV-MIKITOV, IVAN SERGEEVICH, 1892— . Na rodine ptits; iz Talmyrskogo dnevnika. (Okhotnich'i prostory, 1955. kniga 5, p. 277—80, illus.) Text in Russian. *Title tr.:* At the birthplace of birds; from a Taymyr diary.

Sketches of wildlife on Taymyr Peninsula, as observed early in the spring: arrival of such migratory birds as snowbunting, geese, gulls, etc.; abundance of game; rapaciousness of the skuas; arctic flora in early spring. Copy seen: DLC.

48112. SOKOLOVA, M. N. O zakonomernostíákh raspredeleniía glubokovodnogo bentosa; vlifánie makrorel'efa i raspredeleniía vzvesi na pishchevye gruppirovki donnykh bespozvonochnykh. (Akademiía nauk SSSR. Doklady, Oct. I, 1956. t. 110, no. 4, p. 692–95, illus., tables.) 3 refs. Text in Russian. Title tr.: Regularities in distribution of deepsea benthos; the influence of the distribution of suspended material on the food grouping of bottom invertebrates.

Three groups are distinguished among the bottom invertebrates, according to the kind of food they ingest; and their depth distribution in the northwest Pacific and Bering Sea is outlined. The role of the bottom relief as determinant of currents and the significance of suspended food-material as ultimate source of nutrition for the bottom invertebrates, are also discussed. Based on study of the digestive tract of 1923 specimens (83 species) taken by the research vesses taken by the research vesses (Kuril-Kamehatka, and Aleutian Trench, Bering Sea, etc. Copy seen: DLC.

48113. SOKOLOVA, M. N. Pitanie glubokovodnogo bentosa: pitanie Laetmatonice producta v. wyvillei McIntosh. (Akademiâ nauk SSSR. Doklady, Oct. 21, 1956. t. 110, no. 6, p. 111–14.) 5 refs. Text in Russian. Title tr.: The food of deep-water benthos: the food of Laetmatonice producta v. wyvillei McIntosh.

This carnivorous polychaete was collected by the research vessel Vitiaz' in the Kuril-Kamchatka trench at 3800-4130 The intestinal contents of 30 specimens was: 40 percent Crustacea Amphipoda, 20 Polychaeta (fam. Flabelligeridae), and bottom deposit particles 40. Two other polychaetes of the same family (Polynoidae), Eunoe nodosa and Harmothoe rarispona from the sublittoral zone of Bering Sea (at 87 m. depth) were also investigated. The content of their intestines was Crustacea Decapoda 41 percent; Polychaeta 12; bottom sediments 47. Bottom particles are taken incidentally to the feeding process. The real food consists chiefly of Amphipoda in the abyssal zone and Decapoda in sublittoral.

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48114. SOKOLOVA, V. K. Vzglady i issledovania dekabristov v oblasti ėtnografii i fol'klora. (Akademia nauk SSSR. Institut ėtnografii. Trudy, 1956. nov. seria, t. 30, Ocherki istorii russkof ėtnografii, fol'kloristiki i antropologii, vyp. 1, p. 187–210.) Refs. Text in Russian. Title tr.: The Dekabrists' views and investigations in the field of ethnography and folklore.

Mentions the studies made by 19th century Russian political exiles on the customs, literature and social conditions of the Yakuts, Tungus, etc. (p. 205–207): A. A. Bestuzhev, M. I. Murav'ev-Apostol, N. A. Chizhov, A. E. Rozen, etc. Some of their publications and letters are quoted and discussed. Copy seen: DLC.

SOKOLOVA, V. K., see also Potapov, L. P. Istoriko-ėtnograficheskii ocherk russkogo naseleniia Sibiri . . . 1956. No. 47433. **48115. SOLARI, FRANK.** Swedish Lapland. (Appalachia, Dec. 1956. v. 31, no. 2 (new ser., v. 22, no. 12) p. 242–44.)

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Describes mountaineering and walking trip by the author and his wife in the Kebnekaise region (67°53′ N. 18°33′ E.); trail aids of Svenska Turistforeningen are noted.

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48116. SOLEM, ARNE, Editor. Norske kraftverker, utgitt av Teknisk ukeblad ved dets 100 års jubileum april 1954. Oslo, Teknisk ukeblads forlag, 1954. 440 p. illus., maps, diagrs. Text in Norwegian. Title tr.: Norwegian powerplants, published by Teknisk ukeblad (Technical weekly) at its 100-year jubilee, April 1954.

Hydro-electric plants of the arctic provinces of Norway are included in the alphabetic index (p. 9), the drainage basin index (p. 10-11) and on maps of power plant locations and runoff (p. 13, 15). The electric network of northern Norway is described p. 45–58. Discussion of installations (p. 379-440) in Nordland, Troms, and Finmark include size of drainage basin, reservoir storage capacity, size and construction of power plant, photographs, diagrams of some installations, maps large enough to illustrate hydrological details, and plans for future developments. Copy seen: DLC.

SOLLESNES, KARL BIRGER, 1899 , see Ellefsen, E., and K. B. Sollesnes. Kartbok over Norge . . . 1954. No. 44762.

SOLNTSEV, N. A., see Obruchev, S. V. Spravochnik puteshestvennika . . . 1949–50. No. 47123.

48117. SOLOMON, MORTON. Providing the life blood of Thule. (Civil engineering, Aug. 1956. v. 26, no. 6, p. 57–60, illus.)

Contains description of the construction operations, July-Oct. 1951, for the erection of tanks of approx. two million barrels capacity for storage of various kinds of oil products. Permanent distribution facilities consist of two transfer pumping stations located in the main tank farm. These stations distribute fuel to a pipeline network that crosses the river to the base area and then to distribution points.

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48118. SOLONEVICH, N. G. Materialy k ékologo-biologichesko'i kharakteristike bolotnykh trav i kustarnichkov. (Rastitel'nost' Krainego Severa SSSR i ee osvoenie, 1956. vyp. 2, p. 307–497, illus., tables.) Approx. 200 refs. Text in Russian. *Title tr.:* A bio-ecological study of some marsh grasses and small shrubs.

The main plants found in bogs and marshes are described in detail from the author's investigations in northwestern European U. S. S. R., including nonarctic Karelia. For each, data are given on distribution, habitat, growth of roots, stems and leaves, flowering, seed and vegetative reproduction; also its ecological interaction with other plants. Two of the grasses (Carex lasiocarpa Ehrh. (=C. Filiformis Good.), and Rubus chamaemorus L.) and eight low shrubs (Vaccinium myrtillus L., V. vitis idaea L., Andromeda polifolia L., Ledum palustre L., Chamaedaphne calyculata Moench., Vaccinium uliginosum L., Oxycoccus quadripetalus Gilib., and Empetrum nigrum L. s. l.), are native to arctic regions. The plants mentioned are included (Latin names) in the cumulative index to the volume, p. 498-509. Copy seen: DLC.

SOLOUKHIN, VLADIMIR, see Andronnikov, M., and others. L'extrême-nord soviétique . . . 1955. No. 43668.

SOLOVEICHIK, M. M., see Zhitin, N. P., and others. Ploty . . . 1956. No. 49053.

SOLOV'EV, I. N., see Bukovskaîa, Z. I. Peredovaîa kolkhoznaîa zveroferma . . . 1956. No. 44189.

SOLOVKINA, L. N., see Zvereva, O. S., and others. Rybnye bogatstva . . . 1955. No. 49083.

48119. SOMOV, MIKHAIL MIKHAI-LOVICH, and A. A. MUSINA. Determining the chemical composition of the sea water. Washington, D. C., 1956. 3 p. (In: Somov, M. M. Observational data . . drifting station, 1950–1951, pt. 1; translated by David Kraus).

Water samples were usually analyzed in the field laboratory for chlorine and oxygen content and for hydrogen-ion concentration. A brief summary of the methods of analysis is given. Tabulated results are included in Gudkovich's Results . . . No. 45330.

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48120. SOMOV, MIKHAIL MIKHAĬ-LOVICH. The drift of the scientific research station of 1950–1951. Washington, D. C., 1956. 27 p. 13 illus, fold. map. (In: Somov, M. M. Observa-

tional data . . . drifting station 1950-1951, pt. 1; translated by David Kraus.)

A general review is given of the establishment, and maintenance of the Soviet drifting station North Pole-2, including construction of landing strip and road, air-drop of supplies, etc. Fire hazard and meltwater in the station, shifting and breaking of the ice floe in winter, were the most serious problems during the drift. The station, established at 76°10' N. 193° E. on Apr. 1, 1950, and maintained for 376 days, drifted a complex path covering 2600 km., but only 635 km. straight-line distance. Map of the drift, list of personnel and illus. of the camp are given. The scientific results, preliminary in nature, are summarized here and reported separately as listed in No. 48121. Continued drift of the ice floe (map), and its aspect when sighted from aircraft in 1954 are noted.

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48121. SOMOV, MIKHAIL MIKHAĬ-LOVICH, Editor. Observational data of the scientific-research drifting station of 1950-1951, vols. I-III. Materialy nablfüdenil nauchno-issledovatel'skol drelfufushchel stantsii 1950/51 goda, red. M. M. Somov, Leningrad, Izd. 'Morskol transport' 1954-1955. Translated by the American Meteorological Society under contract AF 19(604)-1936, with support and sponsorship of the Geophysics Research Directorate, Air Force Cambridge Research Center, Air Research Washingand Development Command. ton, D. C., U. S. Dept. of Commerce, Office of Technical Services, 1956. 9 pt. diagrs., illus., maps, tables. (ASTIA Document 117132-117140).

Contains 17 papers translated by David Kraus and (the first three oceanographic papers) by E. R. Hope, together with data tables and illus. photo-reproduced from the Russian edition. Translation was made from a set of the Russian volumes (I-III) at National Academy of Sciences, U. S. National Committee for the International Geophysical Year, Washington, D. C.; another set is at Scott Polar Research Institute, Cambridge, Eng. Volume IV of the Russian edition, on solar radiation, geomagnetism, gravity, and auroras is not included.

The drifting station North Pole-2 was established by the Arctic Institute U. S. S. R. on ice in the Arctic Basin north of Bering Strait, in the so-called Region of Relative Inaccessibility.

Headed by M. M. Somov, a party of 16 (later 11) carried out oceanographic, ice, meteorological, actinometric, geomagnetic, pendulum, and auroral observations in the course of the drift, Apr. 2 1950-Apr. 11, 1951. The data worked up at the Institute by/with station personnel are presented in tables with short explanatory text (mostly) by the observer. Each paper is described in this Bibliography under the scientist's name.

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Introduction

SOMOV, M. M. The drift of the scientific research station of 1950-1951.

Oceanography

NIKITIN, M. M. Organization of the oceanographic work.

GUDKOVICH, Z. M. Depth soundings.

GUDKOVICH, Z. M. Water-temperature observations and collection of samples for chemical analysis.

SOMOV, M. M., and A. A. MUSINA. Determining the chemical composition of the sea water.

GUDKOVICH, Z. M. Results of a preliminary analysis of the deep-water hydrological observations.

NIKITIN, M. M. Observations of currents.

BRODSKIĬ, K. A., and M. M. NI-KITIN. Hydrobiological work.

BELOV, N. A. Results of the study of bottom deposits.

Ice science

AKOVLEY, G. N. Visual observations of the state of the drifting ice cover. AKOVLEY, G. N. Study of the

MKOVLEV, G. N. Study of the morphology of the ice cover by surveying. PETROV, I. G. Physical-mechanical properties and thickness of the ice cover.

ÎAKOVLEV, G. N. Thermal regime of the ice cover.

Astronomy

MILIAEV, N. A. Astronomical observations.

Aero-meteorology

CHUKANIN, K. I. Meteorological observations.

KANAKI, E. G., and V. E. BLAGO-DAROV. Aerological observations.

NIKITIN, M. M. Wind observations by damper vane.

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48122. SOOT-RYEN, TRON, 1896—. Report on the hydrographical conditions in West-Finnmark, March-April 1935.

Tromsø, Tromsø Museum, 1956. 37 p. 15 illus. (Acta Borealia A, Scientia, no. 10)

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The area from Loppafjord northward to the mouth of Porsangerfjord east of Nordkap is described, and conditions (oxygen, salinity, temperature) at various depths are discussed. The spring fisheries in the area and conditions in the fishing places are reviewed. Data tables show depth, temperature, salinity, oxygen content and saturation, phosphate and pH content, etc., for various stations. This report, originally prepared (in Norwegian) before World War II, was lost until several years after the war.

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48123. SORRE, MAX. L'homme et le climat. (Géographia, Oct. 1956. no. 61, p. 2-8, 4 illus. (3 col.)). Text in French. *Title tr.:* Man and the climate.

General discussion of the effects of temperature, humidity, altitude, etc., on the human body, and the adaptation of various peoples to their environment. Resistance to cold is considered, with particular reference to the Eskimos, their diet and clothing.

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48124. SOSMAN, ROBERT BROWN-ING, 1881- . The temperature inversions in the fumaroles of the Valley of Ten Thousand Smokes, Alaska Peninsula. (Washington Academy of Sciences. Journal, May 19, 1919. v. 9, no. 10, p. 292-93.)

The phenomenon discovered in 1918 by Prof. R. F. Griggs "may find explanation in the 'velocity cooling' which is known to occur in a jet of gas issuing from an orifice . . . The cooling effect is due to the conversion of heat energy into translational kinetic energy, which is consequently converted back into heat when the high-velocity jet of steam is checked."

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48125. SOSNOVSKIĬ, G. Bobry v Sibiri. (Okhotnich'i prostory. 1956. kniga 6, p. 414–16, illus.) Text in Russian. *Title tr.:* Beavers in Siberia.

Account of success in acclimation of beavers from the Kondo-Sosvinskiy preserve to other regions of Tyumen'skaya (Omskaya) Province.

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48126. SOSUNOV, N. F. Nablíùdeniíà za defateľ nosť fů Avachinskogo i Mutnovskogo vulkanov s 1 ifûnfâ po 1 oktfâbrfâ 1939 g. (Akademiíà nauk SSSR. Kam-

chatskaîa vulkanologicheskaîa stanîsia. Bûlleten', no. 11, 1947. p. 11–13.) Text in Russian. *Title tr:* Observations of the activity of Avachinskiy and Mutnovskiy volcanoes from June 1 to October 1, 1939.

Presents data on the emission of vapor and gas from both volcanoes, obtained by long-distance observations. Visibility for the period is noted. **Copy seen:** DLC.

48127. SOTAVALTA, OLAVI. The flight tone, wing stroke frequency, of insects; contribution to the problem of insect flight, 1. Helsinki, 1947. 117 p. illus., tables. (Acta entomological fennica, no. 4). About 350 refs. Summary in Finnish.

A comprehensive study of the problem based on purely observational and experimental evidences. Included in the latter are studies on the effect of temperature, including low, upon the wing-stroke frequency of some 13 insects, some of them common (fly, bee, etc.). In all forms, frequency of wing stroke decreased with lowering of temperature.

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SOULE, FLOYD MELVILLE, 1901–, see U. S. Coast Guard. International ice observation and ice patrol . . . 1955. 1956. No. 48582.

48128. SOULE, JOHN DUTCHER, 1920— . Two new species of incrusting ctenostomatous Bryozoa from the Pacific. (Washington Academy of Sciences. Journal, Nov. 14, 1951. v. 41, no. 11, p. 367-70, 4 illus.) Issued also as: Contrib. no. 63 from the Allan Hancock Foundation, University of Southern California. 9 refs.

Includes a description of Alcyonidium enteromorpha n. sp., collected by G. E. McGinitie of the Arctic Research Laboratory, off Point Barrow, Alaska.

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48129. SOUSTOV, P. I. Geologo-petrograficheskie issledovaniâ v Umbskom ralone i Fedorovol tundre. (In: Khibinskie apatity, 1933. t. 6, p. 213–16). Text in Russian. Title tr: Geological and petrographic investigations in the Umba region and Fedorova Tundra.

Geological structures east of Aykuayvench mountain to Mount Aydpakkh and south to the Umba River and Fedorova Tundra on Kola Peninsula are described as an aid to further exploration. The strata of green effusive metamorphosed rocks change gradually to the south; petrographic changes in other sections are noted. **Copy seen:** DGS.

48130. SOVERI, URPU. The mineralogical composition of argillaceous sediments of Finland. Helsinki, 1956. 32 p. illus., text map, graphs, 3 tables. (Suomalainen tiedeakatemia. Toimituksia, sarja A, III, Geologica-geographica, 48.) 24 refs.

Pleistocene clay samples (102, six from areas north of the Arctic Circle.) were investigated and detailed studies made on the 12 most typical (one from 66°32′ N. 25°53′ Rovaniemi. Methods consisted of X-ray diffraction, differential thermal analysis, and electron micrography. Results showed that biotite and chlorite in the original material (Precambrian igneous and metamorphic rocks) have produced trioctahedral illite and clay chlorite. Two vermiculite types and mixed-layer minerals are common constituents. Amount of non-clay minerals depends on particle size and rate of sedimentation of the clays. Extent of leaching in and petrography of the original material affected the clay composition .-From author's abstract.

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SOVETKIN, F. F., see Akademiîa pedagogicheskikh nauk RSFSR, Institut natsional'nykh shkol. Rodnof i russkif fazyki . . . 1956. No. 43532.

48131. SOVETSKAÎA ZHENSHCHI-NA. Sravnite éti karty. (Sovetskafă zhenshchina, Apr. 1956, no. 4, p. 24–25, maps.) Text in Russian. Title tr.: Compare these maps.

Industrial development of the U. S. S. R. is graphically shown on 1913, 1940 and 1960 maps. The principal industries are differentiated. Kol'skiy Poluostrov, Arkhangel'skaya and Kamchatskaya Oblast' and Vorkuta are represented.

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48132. SOVETSKIĬ SOUZ. Atomnylledokol. (Sovetskiĭ souz. Apr. 1956, no. 4 (74) p. 5, col. illus.) Text in Russian. Title tr.: Atomic ice-breaker.

Artist's view of an ice-breaker in the leefield is presented with brief note. Such a vessel could convoy ships through the Northern Sea Route, without refueling for two or three years. The sixth five-year plan calls for the application of atomic energy in fields of transportation,

medicine, agriculture and in scientific research generally. Copy seen: DLC.

48133. SOVETSKIĬ SOÎUZ. KrupneIshafa v mire. (SovetskiI sofuz, Jan. 1956, no. 1 (71), p. 14, illus.) Text in Russian. Title tr.: The largest in the world.

Note on construction of the Bratsk hydro-electrical station on the Angara, with 3,000,000 kwt. power.

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48134. SOVETSKIĬ SOÎUZ. Novoe na karte strany. (SovetskiI soûuz, Feb. 1956, no. 2 (72), p. 6-7, col. maps.) Text in Russian. *Title tr.:* New items on the country's map.

Notes industrial expansion achieved during the fifth, and planned for the sixth (1956-60) five-year plan in the U. S. S. R.; expansion of the Vorkuta coal industry, northward advance of corn growing to the Kola Peninsula, etc.

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48135. SOVETSKĬĬ SOÎUZ. Operatŝiĥa na drelfuûshchel l'dine. (Sovetskif soûz, Oct. 1956, no. 10 (80), p. 32, illus.) Text in Russian. *Title tr.:* Surgery at the drifting station.

Reports successful emergency appendectomy performed by the physician of drifting station North Pole-5 with assistance of the chief and two members of the station personnel. Copy seen: DLC.

**48136. SOVETSKIĬ SOÎUZ.** U dvukh polûsov. (Sovetskiĭ soûuz, Feb. 1956, no. 2 (72), p. 18–19, illus.) Text in Russian. **Title tr.:** At two poles.

Note on recent Soviet arctic and antarctic expeditions; photos. of drifting station North Pole-5.

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SOWARD, KENNETH S., 1916—, see Johnson, F. A. Waterpower . . . Bradley Lake . . . 1956. No. 45809.

48137. SPACH, C., and others. Effet de la température sur l'intensité de la respiration in vitro de coupes de différents tissus de rat blanc et de souris blanche. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 6, p. 1252-54, tables.) 8 refs. Text in French. Other authors: M. A. Lucot and C. Kayser. Title tr.: Effect of temperature upon the intensity of in vitro respiration of different tissue slices from white rats and mice.

Report on seven different tissues examined. The "critical thermal incre-

ment" showed a lower value for the slices than that found in intact animals. For most of the slices, it ranged between 11,000 and 14,000 calories; muscle tissue only showed 7,000–8,500 cal.

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48138. SPÄRCK, RAGNAR, 1896—. Descendensteoriens stilling i nutidens zoologi. (Naturens verden, København, 1948. årg 32, p. 14–35, 9 diagrs., 2 graphs.) Text in Danish. *Title tr.:* The position of the theory of descendance in modern zoology.

Includes in a discussion of geographic variation of species, reference to longer wing span of northern puffins (Fratercula arctica and F. naumanni) over southern races, and graphical comparison of wing span of forms from boreal, arctic, and high arctic localities.

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48139. SPÄRCK, RAGNAR, 1896—. Naturfredning i Grønland. (Grønland 1953. hefte 7, p. 262-64, illus.) Text in Danish. *Title tr.:* Nature protection in Greenland.

Advocates passing a game law, establishment of nature reserves and national parks, as well as protection of certain animals for preservation of the species. The only existing nature reserve is Sandgen in Young Sund (74°20′ N. 20°20′ W.) near Daneborg, East Greenland. All geese species in northeast Greenland and the walrus north of Dove Bugt (76°30′ N. 20° W., East Greenland) are protected. There are also certain botanical reserves. Copy seen: DLC.

48140. SPANGENBERG, E. U samogo Belogo morâ. (Okhota i okhotnich'e khoziāistvo, Oct. 1956, no. 10, p. 28–29.) Text in Russian. *Title tr.:* At the White Sea.

Describes the spring resting place of migrating birds in the delta of the Severnaya Dvina River and depletion of their stock, especially of swans, caused by the almost unrestricted hunting. Prohibition of spring hunting in such resting places and other means of conservation are discussed and recommended.

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SPARLING, DAVID L., see Leer, R. H., and D. L. Sparling. Eye disease among native school children. 1956. No. 46291.

SPASSKIĬ, GRIGORIĬ IVANOVICH, d. 1864, see Karal'kin, P. I. Ob arkhive . . . Spasskogo. 1956. No. 45891.

SPECIAL COMMITTEE... See under International Geophysical Year, 1957– 1958.

SPECK, FRANK GOULDSMITH, 1881–1950, see Sanders, I. T. Societies around the world. 1956. No. 47782.

SPECTOR, HARRY, see USQM Food and Container Institute. Nutrition symposium. 1954. No. 48643.

48141. SPENCE, C. C. Economic problems of northern agricultural fringe settlements of Canada. (*In*: Alaskan Science Conference . . . 1952. Proceedings, *pub*. 1954, p. 194–96.)

A discussion of the extent, area and kinds of farmland in Canada; crops; capital; northern agricultural settlement; lumbering and fishing as additional revenue in farming, and the results of such mixed enterprises; encouragement of new settlement by immigrants and displaced Canadian farmers; the effect of industrialization; etc.

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48142. SPENCER, JOSEPH WILLIAM WINTHROP, 1851–1921. Glacial-erosion in Norway and in high latitudes; on the theory of glacial motion. (Royal Society of Canada. Proceedings and Transactions, 1887. v. 5, sect. 4, p. 89–100, diagrs.)

Contains detailed description of investigations made in the summer of 1886 in sub-glacial caverns of three Norwegian glaciers. The results are discussed in relation to glacier motion. The glaciers are advancing rapidly and they do not conform to the surfaces over which they pass but arch over from point to point to form caverns. Various theories of glacier motion are reviewed, and the phenomenon is attributed to the effect of gravity on a visco-elastic body, the motion being greatly modified by temperature. The ability of floating ice to erode is also discussed.

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48143. SPENCER, MARIETTA B. The child in the contemporary culture of the Barrow Eskimo. (Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 130–32.)

Aims of child rearing in the older

Barrow culture are described and compared with those of the present. Effects of contact with the white man (schools, movies, hospitals, employment with U. S. armed forces, etc.) are noted. Changes have not so far resulted in disorganized individuals or communities. Many old skills are still taught the children, although grandparents play a lesser part as teachers. Individual freedom is still respected. Some aspects of present child-training are listed.

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48144. SPENCER, ROBERT FRANCIS, 1917 - . Forms of cooperation in the culture of the Barrow Eskimo. (Alaskan Science Conference . . 1952. Proceedings, pub. 1954, p. 128-30.) 2 refs.

The Arctic Coast from Pt. Hope to Pt. Barrow is an area of common culture. characterized by sea-mammal hunting, especially whaling. Structure and component elements of the Barrow Eskimo society were studied (summer, 1952) to determine role played by cooperation. Primary instances of cooperative action occurred within the kinship groups and crews of whaling boats. These are briefly discussed. Primary integrative factor in the Barrow society continues to be the bond of kinship in spite of social and economic changes. When changes strike the family structure, societal disorganization may follow.

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48145. SPENCER, ROBERT FRANCIS, 1917— Map making of the North Alaskan Eskimo. (Minnesota Academy of Science. Proceedings, 1955. pub. 1956? v. 23, p. 46–49) ref.

Describes maps depicting local terrain, used by the Eskimos for travel directions; "drawn" in sand or snow, they indicated surface features of the tundra, and the traveler would commit topography, landmarks, and place names to memory. Such maps were never drawn on skins or other portable material. Trade and travel between coastal and inland groups necessitated maps and instructions for those entering unfamiliar territory. Social

48146. SPERANSKIĬ, M. A. Primenenie geofizicheskikh metodov pri poiskakh i razvedke ugol'nykh mestorozhdenii. (Akademia nauk SSR. Laboratoriia geologii uglia. Trudy, 1956, vyp. 5, Materialy vtorogo ugol'nogo geologi-

organization of these Eskimos is briefly

cheskogo soveshchania, p. 116–23.) Text in Russian. *Title tr.:* Using geophysical methods in searching and prospecting for coal deposits.

In 1954, more (by 15 percent) workable coal seams were found in the U. S. S. R. by geophysical methods, than by boring and drilling, and the use of these methods should be extended. Their use in Pechora coal basin prospecting is mentioned (p. 116). Summary of Conference discussion of the paper is appended.

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SPERANSKIĬ, MIKHAIL MIKHAĬLO-VICH, 1772–1839, see Murzina, A. I. Reforma Speranskogo v Zapadnoi Sibiri. 1950. No. 46908.

SPERANSKIĬ, MIKHAIL MIKHAĬLO-VICH, 1772-1839, see also Raeff, M. Siberia . . . reforms of 1822. 1956. No. 47501.

48147. SPETTIGUE, DOUGLAS. The friendly force. Toronto, New York, Longmans, Green [1955?]. 134 p. illus.

Popular account of the Royal Canadian Mounted Police: formation as the Northwest Mounted Police in 1873 and subsequent activities; training of recruits; work of the various branches and divisions; activities and duties of G Division in the North; arctic patrols; operations by sea and air; training of dogs, etc.

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48148. SPETZMAN, LLOYD AN-THONY, 1920 - Annotated list of plants occurring on the Arctic Slope of Alaska. Washington, D. C., Nov. 1956. 5 fold. p. (13 x 22 in.), text map. (U. S. Geological Survey. Reports, open file series, no. 403.)

Lists 439 higher plants (by families) with botanical and common names, distribution (coastal plain, foothills, mountains, Noatak drainage), altitude range, abundance, flowering period, and on habitat. The collections. probably the most extensive to date from northern Alaska, were made by author and others in 1948 and 1949. This list is part of a work to be included in a series of professional papers on U.S. Naval Petroleum Reserve No. 4 and adjoining areas. Copy seen: DGS.

**48149. SPICE, E. B.** Economic factors in cold weather operations. (Mining engineering, July 1956. v. 8, no. 7, p. 712–17, 9 illus.) 8 refs.

Deals with mine development and

described.

operation in permafrost areas: prospecting, underground development, design and construction of mine buildings, power generation, underground shops, construction of the mill, roads and yards, transportation, tailings disposal and reclamation, underground operations, recreation for personnel in isolated areas. Costs are briefly discussed. Illus. show reconstruction of mill at Port Radium, Great Bear Lake, after fire of Nov. 1951, and dredging operations for tailings in the Lake. Author is with the Research and Development Div., Eldorado Mining and Re-Copy seen: DGS. fining Ltd.

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48150. SPIER, LESLIE, 1893—. The prophet dance of the Northwest and its derivatives: the source of the ghost dance. Menasha, Wis., G. Banta, 1935. 74 p. diagr., map. (General series in anthropology no. 1). Approx. 150 refs.

This dance and derived cults, with doctrine of the end and renewal of the world, return of the dead, etc., was distributed among Indian tribes from northern California to north-central British Columbia. Evidence (from early explorers' narratives) that it was transmitted to Athapaskan tribes of the Mackenzie area is examined (p. 25-29): the prophet cult seems to have been transmitted to the Yellowknives and others about 1812; and a century later to be part of a derivative complex among the Beaver, Slave, Dogrib, Satudene Indians. Copy seen: DLC.

48151. SPILSBURY, R. H. and R. L. SCHMIDT. Ecological investigations of coastal forests of British Columbia. (In: Alaskan Science Conference . . 1953. Proceedings, pub. 1956, p. 94–96.)

An outline of forest soil research, commenced in 1941, and of a wider, ecological survey (begun in 1950) of the coastal forests, including stands of all ages and species composition. The findings indicate a great variety of soil, topographic and climatic conditions together with great variations in forest age extending to 3000 years.

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48152. SPIRIDONOV, NIKOLAI I. Snow people, Chukchee. New Haven, Conn., Human Relations Area Files, 1954. xvii, 73 p. (Behavior Science translations).

English translation, originally pub. by Methuen, London 1934, of a tale of life among the Chukchis in pre-Revolutionary Russia. The author, called Tekki Odulok, is a native Yukaghir (cf. No. 16639, 32214), and he attempts to show the manner in which old tribal ways are changed by contact with Russian fur traders and merchants. The text is presented in fascimiles of sheets prepared for the Human Relations Area Files. Various parts of it are subject keyed, and an abbreviated subject list is included.

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SPIRO, N. S., see Leningrad. Nauchnoissledovateľskiľ institut geologii Arktiki. Metodicheskie issledovaniâ po geokhimii . . . 1956. No. 46312.

SPITLER, A. Q., see Mardoian, F. M., and others. How to winterize construction equipment. 1956. No. 46617.

48153. SPRAGUE, RODERICK, 1901- . Some leafspot fungi on western Gramineae, VII. (Mycologia, 1954. v. 46, no. 1, p. 76–88, illus.) 20 refs.

Contains Latin diagnoses and complete descriptions of Gloeocercospora alascensis, Mycosphaerella deschampsiae n. spp. and Septoria macropoda f. sitadakaensis f. nov., and an annotated list of 25 other leafspot fungi, parasitic on Gramineae, collected in southeastern Alaska July-Aug. 1952 in the vicinity of Juneau and in Glacier Bay National Monument region.

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48154. SPRAGUE, RODERICK, 1901- . Some leafspot fungi on western Gramineae, X. (Mycologia, Sept.-Oct. 1956. v. 48, no. 5, p. 741-56, illus.) 22 refs. Pub. also as: Scientific paper no. 1480, Washington Agricultural Experiment Station, Pullman, project no. 449.

Contains descriptions of two new species and critical notes on some 40 others. Gloeocercospora alascensis on Elymus glaucus, Septoria oudemansii on Hierochloë alpina (probably from Greenland), Phaeoseptoria festucae on Phleum alpinum at Tlingit Point, Glacier Bay, Alaska, and Selenophoma donacis var. stomaticola on Puccinellia, from Alaska, are included.

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48155. SPRINGER, GEORGE DOUG-LAS. Knee Lake area; preliminary notes to accompany geological map 46-1. [Winnipeg, 1946?]. 2 l., fold. map 31 x 41 in. Mimeographed. (Manitoba. Dept. of Mines and Natural Resources. Mines Branch. Preliminary report, 46-1.)

Map (scale 1 in.: 2 mi.) covers the area 55°-56° N. 94°-95° W. in the Hayes River basin. Area is mantled by heavy drift, and few rock outcrops are found.

Consolidated rocks are Precambrian. Oldest known are the Hayes River group, a volcanic and sedimentary series. Numerous narrow quartz prophyry dikes cut all types of volcanic rock. The major intrusive is a biotite granite varying from massive structureless to gneissic granite. Diabase dikes and quartz veins intrude all these rocks. The drift cover has been a hindrance to prospecting except near the shores of Knee Lake and Hayes River.

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48156. SPURR, GERALD B., and others. Temperature gradients in the hypothermic dog. (American journal of physiology, July 1956. v. 186, no. 1, p. 47-51, illus., tables.) 6 refs. Other authors: S. M. Horvath, L. H. Hamilton and B. K. Hutt.

A study of temperature gradient in 15 dogs, with six of them showing a relatively stable hypothermic state of ca. 25° C. for from 4.5–34 hrs. "Initially the greatest amount of heat lost to the environment was from the muscular tissue. As the hypothermia progressed, a greater and greater flow of heat came from the deep, central regions;" the temperature gradient during hypothermia suggests a heat flow primarily through conduction. Values of the "thermal circulation index" in various regions were also studied during hypothermia.

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SPURR, GERALD B., see also Horvath, S. M., and G. B. Spurr. Effects . . . hypothermia . . . general metabolism. 1956. No. 45614.

SPURR, GERALD B., see also Horvath, S. M., and others. Metabolic cost of shivering. 1956. No. 45615.

SPURR, GERALD B., see also Horvath, S. M., and others. Reactions . . . nude men . . . mild cold exposure. 1956. No. 45616.

SREZNEVSKIĬ, B. I., see Breitfus, L. L. Trudy Murmanskoĭ nauchno-promyslovoĭ ėkspeditsii 1906 goda . . . 1915. No. 44128.

**48157. STACEY, E. C.** The agricultural resources of northwestern Canada. (*In:* Alaskan Science Conference . . . 1952. Proceedings, *pub.* 1954, p. 196–97.)

Discusses potential arable land in the Yukon and Mackenzie River basins; agricultural investigations; soil types in the Peace River region, Fort Vermilion, Whitehorse, and Fort Simpson substations; recommended crops; research needs,

Population of the region is about 150,000, centered in Yellowknife, Whitehorse, and Peace River district.

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48158. STADLING, J. När världens nordligaste järnväg bygges; minnen och intryck från en färd mellan Gellivara och Ofoten. (Svenska turistföreningen, Stockholm. Årsskrift, 1900. p. 220–36, 7 illus.) Text in Swedish. Title tr.: When the world's northernmost railway was built; memories and impressions from a journey between Gällivare and Ofoten.

Account of construction on the northern Swedish section of the Luleå-Narvik line in the summer of 1899, with general description of country along the right-of-way, life of the laborers in its medical, social, and financial aspects, their national groups, hydro-electric construction at Abiskojokk, and the iron ore of the Malmberg-Kiruna region. The Torneträsk section of the route was wilderness at that time. Supplies and provisions were brought overland from Norway.

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48159. STAGER, J. K. Progress report on the analysis of the characteristics and distribution of pingos east of the Mackenzie delta. (Canadian geographer, 1956. no. 7, p. 13–20, text map, diagr., 2 tables) 4 refs.

The locations and characteristics of 1380 pingos were recorded from study of aerial photographs and visit to the Mackenzie delta in summer 1954. Ninety percent are small to medium in size (to 80 ft. high), most have round outlines, are plug-shaped, with smooth summits. Nearly all are found in lake basins. Three main areas of concentration are found: along the East Channel of the Mackenzie between Tununuk and Kittigazuit, Toker Point to Tuktuk and westward, west side of Richards Island. Copy seen: DLC.

STAHL, PIERRE, see Martin, J., and others. Groenland, 1948-1952; gravimétrie . . . 1954. No. 46642.

48160. STAIR, LESLIE DALRYMPLE, and F. W. PENNELL. A collection of plants from Yakutat, Alaska. (Bartonia, 1946. no. 24, p. 9–21, plate 6.)

Contains a brief description of the Yakutat and Disenchantment Bays and Russell Fiord regions, visited by the senior author in July 1945, with historical notes on collectors and collections from there. Cryptograms (eight) and seed plants (176) are listed systematically with data on habitats. Indigenous seed plant species of the region number 168, and some of them are first records of the forest and muskeg flora. Dodecatheon superbum n. sp. from Eklunta is fully described and illustrated.

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48161. STANDLEY, PAUL CARPENTER, 1884—. The Chenopodiaceae of the North American flora. (Torrey Botanical Club. Bulletin, Sept. 1917. v. 44, no. 9, p. 411–29) 6 refs.

Contains a systematic annotated list of 44 species of this family. Chenopium aristatum, reported from Alaska, and Atriplex alaskensis and A. gmetini, ranging from northern California to Alaska, are included.

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STANFORD RESEARCH INSTITUTE, STANFORD UNIVERSITY, see U. S. Army. Transportation Corps. Final report... Operation Ice Cap 1953. 1954. No. 48553.

STANFORD RESEARCH INSTITUTE, STANFORD UNIVERSITY, see U. S. Army. Transportation Corps. Summary... Operation Ice Cap, 1953. 1954. No. 48561.

STANKEVICH, A. V., see Nikol'skaîa, V. V., and A. V. Stankevich. Nekotorye...cherty...r. Vel'mo... 1955. No. 47046.

48162. STANKEVICH, E. F. Ob istorii razvitifa gidrograficheskoi seti severovostoka Evropetskoi chasti SSSR. (Akademifa nauk SSSR. Doklady, July 1, 1956. t. 109, no. 1, p. 187–89.) 14 refs. Text in Russian. *Title tr.:* The development history of the hydrographic net in northeastern European U. S. S. R.

Attempt is made to evaluate the geological age of the Pechora River basin and adjoining regions: the pattern of the present-day hydrographic net was established during the last intra-glacial period when the alluvial terraces of various rivers were developed. During the last glaciation, changes in the relief of the region were comparatively small. When the ice sheet receded, the rivers returned to their former valleys and the process of accumulation of new alluvial deposits was resumed.

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48163. STANLEY, GLENN M. Anomalous ground wave propagation in the

vicinity of Point Barrow, Alaska. Boulder, Col. 1956. 1 p. (*In:* U. S. National Bureau of Standards. Symposium on the propagation of V. L. F. radio waves, Jan. 23–25, 1957, paper no. 26).

Measurements of effective ground conductivity over the past several years in an area south of Point Barrow showed anomalous conditions. Attenuation of the ground wave by as much as it would be over sea water was found. This might be explained by the presence of a "layered-earth." Brine layers reportedly exist in the area at depths of 10–100 ft. between layers of permafrost.

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48164. STANOVOV, A. Pape na poliûs. (Ogonëk, Mar. 1956. god 34, no. 10, p. 23, illus.) Text in Russian. Title tr.: To Dad at the Pole.

Communication was maintained without a break, and by ordinary mail and telegraph between Alekseï Sergeevich Gavrilov, physician of the drifting station North Pole-5, and his family, living in Moscow. Copy seen: DLC.

48165. STANTON, MICHAEL STUART, 1917—. Geology of the Dunphy Lakes area, Granville Lake division, Manitoba. Winnipeg, 1949. 34 p. fold. map 28 x 40 in., tables. (Manitoba. Dept. of Mines and Natural Resources. Mines Branch. Report and map, 48–4.) 4 refs.

Report and map, 48-4.) 4 refs.

Map (scale 1 in.: ½ mi.) covers the area 56°30′-45′ N. 101°30′-45′ W., about 26 mi. southwest of Lynn Lake. Means of access and physical geography are described. Mapping (methods described) was done in summer The Precambrian consolidated 1948. rocks belong to the pre-Sickle (Wasekwan) volcanic-sedimentary series, the Sickle sedimentary series (separated from the pre-Sickle by an unconformity), and post-Sickle assemblage of intrusives ranging from gabbro to granite. Folding and faulting are briefly described. Extensive exploration in summer 1947 failed to discover any nickeliferous deposits; mineralized zones on five properties are noted. Copy seen: DGS.

48166. STANTON, MICHAEL STUART, 1917- . Geology of the Farley Lake area, Granville Lake division, Manitoba. Winnipeg, 1948. 22 p. fold. map 14 x 21 in., table. (Manitoba. Dept. of Mines and Natural Resources. Mines Branch. Preliminary report 47-5.) 3 refs.

Map (scale 1 in.: 1 mi.) covers the area

56°45′-57° N. 100°15′-30′ W. in the Lynn Lake area, including southern Barrington Lake. Mapping was done in summer 1947. Physical geography and access are described. The Precambrian bedrock consists of the pre-Sickle (Wasekwan) volcanic and sedimentary assemblage and the Sickle sedimentary series, separated by an unconformity. Post-Sickle intrusives range from gabbro to granitic rocks. Exploration for nickel-copper orebodies (unsuccessful) by Sherritt Gordon Mines Ltd., Nickel Mines Ltd., and Barrington Lake Copper Mines Ltd., etc. is noted. Copy seen: DGS.

48167. STANWELL-FLETCHER, JOHN FREDERICK, 1903—. New focus on the Arctic. (New York Times magazine, Oct. 3, 1954. Sec. 6, p. 14–15, 72–73, illus., text chart.)

A polar projection chart shows the "climatological limit" of the Arctic in relation to continents, oceans and ice pack limits. Text and pictures depict life and research activities in North American and Russian Arctic. Copy seen: DLC.

48168. STARIKOVA, N. D. Organicheskoe veshchestvo v tolshche osadkov Beringova morîa. (Akademiñ nauk SSSR. Doklady, Jan. 21, 1956. t. 106, no. 3, p. 519–22, tables.) 9 refs. Text in Russian. Title tr.: Organic matter at various levels of deposits of the Bering Sea.

Account of investigation of cores 1.0-15.5 m. long taken from various depths to 4000 m. Organic C content varied between 0.57 and 1.76 percent; that of N between 0.06 and 0.22 percent. The amount of organic matter in shallow-water deposits was found to be higher than that in the deep sea.

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48169. STARIKOVA, N. D. Organicheskoe veshchestvo zhidkol fazy sovremennykh osadkov Okhotskogo morfa. (Akademifa nauk SSSR. Doklady, June 11, 1956. t. 108, no. 5, p. 892-94, tables.) 8 refs. Text in Russian. *Title tr.:* Organic substance of the liquid phase of contemporary sediments in the Sea of Okhotsk.

The presence of organic substances in the bottom sediments was studied earlier in connection with concentration of dispersed liquid hydrocarbons from argillaceous deposits into condensed form. These studies are reviewed in relation to the present investigation of the Sea of Okhotsk sediments. Bucket samples and cores from various depths of the bottom were compressed by a hydraulic press (to 100 kg./cm<sup>2</sup>). The liquid squeezed from the sample and compressed residue material were analyzed for carbon content and results are tabulated for each sampling method. Content of soluble organic carbon is found to be 5 mg./liter for the upper layers and 13 mg./l. 30 cm. lower, and represents only about 0.3 percent of the amount in the solid phase. Carbon content in the liquid phase, however, is about 15 times that in ocean water. Copy seen: DLC.

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STARK, ROBERT A., see Owren, L., and others. Arctic radio wave propagation . . . 1956. No. 47217.

48170. STARKMAN, E. S., and J. H. BRIDGES. Pumpability of aircraft turbine lubricants at low temperatures. (Lubrication engineering, Jan.-Feb. 1956. v. 12, no. 1, p. 43-47, diagrs., table.) 13 refs.

Contains determination of the flow characteristics for representative gas turbine lubricants in a simple hydrodynamic system in the vicinity of their power points at temperatures down to—70° F. Results indicated that laminar flow relationships were satisfactory for predicting flow characteristics down to the pour point so long as proper attention was paid to pump inlet conditions. There was evidence that fluids with so-called waxy pour points could be satisfactorily pumped to temperatures lower than the pour point.

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48171. STARKOV, I. Sibir' daet "slonovum kost'." (Înyî naturalist, Dec. 1956, no. 9, p. 26–27, illus.) Text in Russian. *Title tr.:* Siberia yields ivory.

Recounts discovery of a mammoth in the bank of the Berezovka River; 18 skeletons have been collected in the Soviet museums since then, and 20-30 tons of mammoth tusks are being found annually in Siberia. Copy seen: DLC.

48172. STARKOV, P. M. Nagnetatel'nafa funk sifa serdisa i ego ostanovka pri nizkikh temperaturakh. (Eksperimental'nafa khirurgifa, 1956. god 1, no. 4, p. 9–15, illus.) 5 refs. Text in Russian, Summary in English. Title tr: Pumping action of the heart and its arrest at low temperatures.

Account of observations on cardiac

activities and behavior at various hypothermic levels in the dog. Rate, volume (both systolic and diastolic), blood pressure, electrocardiograms, etc., are considered, both during cooling and rewarming.

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STAROKADOMSKII, LEONID MI-KHAILOVICH, 1875-, see Karpov, G. V. Adol'f Érik Nordenshel'd . . . 1955. No. 45899.

48173. STARR, VICTOR P., and R. M. WHITE. Direct measurement of the hemispheric poleward flux of water vapor. (Journal of marine research, Nov. 1955. v. 14, no. 3, p. 217–25, diagr.,

table, text maps.) 8 refs.

The average meridional flux of water vapor in the Northern Hemisphere was estimated on the basis of wind and moisture observations taken during 1950 at the standard pressure levels of 1000, 850, 700 and 500 mb. Zonal averages for five latitudes are given and shown to compare favorably with required values based on climatic estimates of precipitation and evaporation. The largest poleward flux occurs near 40° N. The distribution of stations used in the study, including several in the Arctic, is mapped. Copy seen: DLC.

48174. STARYNKEVICH-BORNE-MAN, IRINA DMITRIEVNA, 1890— . Khimicheskii sostav lovehorrita i kondrikita. (In: Khibinskie apatity, 1933. t. 6, p. 114–18, tables.) Text in Russian. Title tr: Chemical composition of lovehorrite and kondrikite.

The results of analyses of lovchorrite, rinkolite, and their surface erosion are discussed. The erosion process is interpreted not as one of disintegration but later mineral formation, on the basis of the microscopic and chemical analyses. Presence of rare earths in 12 samples was found from 1.5 to 12 percent. Chemical analyses of lovchorrite, vudyavrite and kondrikite are given in (four) tables.

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48175. STARYNKEVICH-BORNE-MAN, IRINA DMITRIEVNA, 1890—. Raboty laboratorii Khibinskoi gornoi stantsii Akademii nauk SSSR. (In: Khibinskie apatity, 1933. t. 6, p. 270–75, 7 tables.) Text in Russian. Title tr: Work in the laboratory of the Khibiny mining station of the Academy of Sciences, U. S. S. R.

Contains description of work of four

laboratory groups on: lovchorrite and its by-products, kondrikite, vudyavrite, carboeer, brown ranite, grey ranite (similar to pectolite), black apatite and a few others; on development of a method for the determination of molybdenum (Mo) and rare earth (TR); and on analysis of ore samples from Volch'ya and Moncha Tundras including eucolite, luyavrite and other Khibiny minerals.

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48176. STEARNS, STEPHEN RUSSELL, 1915— . Aircraft operations on floating ice sheets. [Hanover, N. H., Dartmouth College, 1956]. 26 l. diagrs. 11 refs. Paper delivered before the Air Transport Division, American Society of Civil Engineers' annual meeting, Pitts-

burg, Pa., Oct. 16, 1956.

"The history of travel over ice is outlined, and a synopsis of available information on the use of floating ice for airfields is given. The mechanical behavior of a floating ice sheet under load and the relationships of various properties of the ice to this behavior are discussed. The theoretical and empirical approaches to the prediction of safe bearing capacities of floating ice are described, and the recommended procedures for the selection of a landing site is given."—SIPRE.

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STEBNITSKIĬ, SERGEĬ NIKOLAE-VICH, 1906–, see Antropova, V. V. Korîâki. 1956. No. 43703.

STEELE, J. H., see McIntyre, A. D., and J. H. Steele. Hydro-biological conditions... Denmark Strait... 1956. No. 46534.

48177. STEEN, ADOLF. Kautokeinoslekter. Oslo, Norsk folkemuseum, 1952. 255 p. (Samiske samlinger, bd. 1) 33 refs. Text in Norwegian. *Title tr.:* Kautokeino families.

Contains a genealogical study of Lapp families (31) of Kautokeino (68°59′ N. 23°08′ E., north Norway) with consideration also of 31 smaller families connected with the former by marriage. The study is taken from the earliest reliable information (usually first half of the 18th century) through 1950. Short notes on the origins of the families are given as well as etymological information on the names.

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48178. STEEN, ADOLF. Kautokeinostudier. Oslo, Norsk folkemuseum, 1956. 113 p. 2 fold. maps, tables (Samiske samlinger, bd. 3) 30 refs. Text in Norwegian. Title tr.: Kautokeino studies.

Contains an historical account of the nomadic Lapps in the Kautokeino district from the mid-16th century with special reference to fishing, hunting and reindeer husbandry. A survey of communities (sii'dâ) is given, families and individuals in each community are listed with indication of where they spend summer and winter. There were 25 communities in summer 1954 with 684 inhabitants. Demographic data (marriage, number of children, longevity) include the settled as well as nomadic Lapps.

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STEENIS, J. H., see Herman, C. M., and others. Causes of winter losses . . . Canada geese. 1955. No. 45531.

48179. STEERE, WILLIAM CAMP-BELL, 1907—, and B. SCHOFIELD. Myuroclada, a genus new to North America. (Bryologist, Mar. 1956. v. 59, no. 1, p. 1–5, illus.) 10 refs.

A description of Myuroclada maximowiczii from the only collection in America at King Salmon (58°42' N. 156°42' W.), Alaska. This bryophyte is reported from northern and arctic Eurasia. The single species makes up the genus Myuroclada. Copy seen: DA.

48180. STEERE, WILLIAM CAMPBELL, 1907. The taxonomic status and geographic distribution of *Philocrya aspera*. (Bryologist, Sept. 1956. v. 59, no. 3, p. 161–67, illus., map) 12 refs.

Contains account of earlier work on this moss and author's description of it in the field (Cape Lisburne, Alaska, 68°53′ N. 166°04′ W.) including morphology and anatomy. Its geographic distribution as hitherto recorded (Greenland, arctic North America) is given in detail.

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48181. STEFÁNSNSO, UNNSTEINN. Ástand sjávar á síldveiðisvaeðinu norðanlands sumarið 1955. Hydrographic conditions on the north Icelandic herring grounds during summer 1955. Reykjavík, 1956. 23 p., 20 text charts, diagrs., graphs. (Reykjavík. Háskóli Islands. Atvinnudeild. Fiskideild. Fjölrit fiskideildar, nr. 6.) 4 refs. Text in Icelandic. Summary in English.

Hydrographic investigations were made in Denmark Strait-Greenland Sea northeast to Jan Mayen in connection with herring investigations by the research vessel Aegir (Iceland University Research Institute, Dept. of Fisheries). Influx and distribution of Atlantic water, currents, dissolved oxygen and phosphates, temperatures and salinity structures and distribution are described and compared with conditions in 1954 (No. 45828). The phytoplankton was much less abundant than in 1954. The northwest area was ice-free as far as 68° all summer.

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48182. STEFÂNSSON, UNNSTEINN. Hydrographic conditions north and northeast of Iceland, 1954. (International Council for the Exploration of the Sea. Annales biologiques, 1954, pub. 1956. v. 11, p. 15–20, illus., maps.)

Contains data on temperature and salinity at levels down to 100 m. with discussion of water bodies, temperature structure and conditions in 1953. The supply of phosphates in the surface layers was also studied. Copy seen: DI.

STEFÁNSSON, UNNSTEINN, see also Jónsson, J., and U. Stefánsson. Síldarrannsóknir "Aegis" sumarið 1954. 1955. No. 45828.

48183. STEFANSSON, VILHJALMUR, 1879- . Causes of Eskimo birthrate increase. (Nature, *London*, Nov. 17, 1956. v. 178, no. 4542, p. 1132.)

Discusses the increased birth rate of the (Point Barrow, North Alaska) Eskimos, generally attributed to the adoption of white man's diet. He suggests another explanation: the early weaning of babies instead of old, prolonged breast feeding. This new practice, also adopted from the white populace, would result in more frequent conceptions and births.

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48184. STEFANSSON, VILHJALMUR, 1879— . The fat of the land. Enl. ed. of Not by bread alone. New York, Macmillan, 1956. xlii, 339 p. tables. Approx. 300 refs.

A new edition of No. 48186, now enlarged by introductory sections of Dr. Frederick J. Stare, Dr. Paul Dudley White and the author. Text and bibliography are the same as in the first edition.

Copy seen: DLC.

48185. STEFANSSON, VILHJALMUR, 1879— . Natural cold storage. [Washington, D. C.] 1956. iv, 22 p. diagrs. (In: U. S. Office of Naval Operations. The dynamic North, v. 2, no. 13.)

Reviews some of the physical principles

and the historical development of the use of permafrost for cold storage purposes. Account is given of this method as used in Alaska: at Elephant Point by the Lomen Reindeer Co., and at Pt. Barrow by the U. S. Navy (contributed by Carl Lomen, and P. W. Roberts); in arctic Canada: experience at Aklavik, Cape Bathurst, at Baillie Island (by W. P. Johnston), etc.; and in Siberia: at Ust'-Yenisey Port and Igarka (based on No. 3041). Construction methods of storage rooms in the frozen ground are outlined, and typical areas are illustrated. Copy seen: DLC.

48186. STEFANSSON, VILHJALMUR, 1879- Not by bread alone. New York, Macmillan, 1946. xv, 339 p. tables. About 300 refs.

Following introductions by Drs. E. F. DuBois and E. A. Hooton, the author expounds his ideas on arctic diet and meat diet in general, on the basis of his studies and experience with exclusively meat-eating Eskimos, and of the opinions of other explorers and some physiologists. To prove his point that man can live and remain healthy on a pure meat and fat diet, Stefansson and an associate lived for a year on such a regimen, under scientific investigation by the Russell Sage Institute of Pathology, sponsored by the American Meat Institute, an experience fully reported in the book. In addition, the account contains information on Eskimo (and Indian) hunting, fishing and diet; scurvy and antiscorbutics; the preparation and composition of pemmican; pemmican wars; current ideas on pemmican, etc. Copy seen: DLC.

48187. STEFANSSON, VILHJALMUR, 1879— A word common to the natives of Alaska, Canada, Greenland and Brazil. (Nature, London, Nov. 3, 1956. v. 178, no. 4540, p. 1008.)

Discusses the Eskimo 'kutsuk' used from time immemorial for (spruce) gum chewed by the children, for dried seal blood used as its substitute, and more recently for chewing-gum of the white man. A possible common origin with the Brazilian "caoutchoue" is suggested. A similar suggestion is made for the Eskimo word for fire "ignirk" and the Latin equivalent 'ignis.' Copy seen: DNLM.

STEFANSSON, VILHJALMUR, 1879-, see also Browne, B. The conquest of Mt. McKinley . . . 1956. No. 44161.

STEFANSSON, VILHJALMUR, 1879—, see also Explorers Club. Told... Explorers Club... tales ... 1931. No. 44832.

STEFANSSON, VILHJALMUR, 1879—, see also U. S. Office of Naval Operations. The dynamic North. 1956. No. 48636.

48188. STEIGER, ANDREW J. Arctic routes to China and the Soviet Union. (Amerasia, June 1942. v. 6, no. 4, p. 166-73, map) 5 refs.

Three alternative supply routes to the Soviet Union from North America are proposed: a great circle air route over the North Pole; a so-called "northern Burma Road" from Edmonton via Fort Nelson and Fairbanks to Teller on Bering Strait; and sea route from Seattle via Dutch Harbor through Bering Strait and along the Northern Sea Route to Arkhangel'sk and Murmansk. Map shows proposed routes. Copy seen: DLC.

48189. STEIN, ERNST, and H. LAM-MERT. Kältereflex und Kreislauf. (Archiv für physikalische Therapie, 1955. Jahrg. 7, Heft 5, p. 377–85, illus.) 29 refs. Text in German. *Title tr.:* Coldreflex and circulation.

Contains a study of cosensual blood-vessel reactions following local cold-stimulus. Increase of arterial, and decrease of venous, peripheral circulation were observed; the latter occurred at temperatures which had no effect yet on the arterial, peripheral circulation. Threshold and intensity of reaction vary from person to person; the effects of preceding cold- or warm-exposure are also discussed.

Copy seen: DNLM.

48190. STEIN, HAROLD JACOB, 1913-, and others. Physiological reactions to cold and their effect on the retention of acclimatization to heat. Natick, Mass., Dec. 1948. 26 p. illus., tables. (U. S. Quartermaster Corps. Environmental Protection Section. Report, no. 142.) 42 refs. Other authors: J. W. Eliot and R. A. Bader.

Account of observations on three healthy, white males, exposed successively to periods of heat, cold and again heat. Cardiovascular and metabolic functions, water and chloride balance and body water partition were recorded. The findings suggest that repeated cold exposures do not accelerate loss of heat acclimatization. There was no evidence for cold acclimatization and no significant

change in basal metabolic rate during the heat or cold periods was observed.

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STEINER, E. E., see Van Dyke, J. G., and others. Survival of Escherichia coli . . . X-irradiation . . . 1956. No. 48682.

48191. STEINER, GOTTHOLD, 1886—
Limicole Mermithiden aus dem Sarekgebirge und der Torne Lappmark. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907—1939. Bd. 4, Zoologie, Ifg. 8, pub. 1923. p. 805—828, 29 illus.) 12 refs. Text in German. Titte tr.: Limicole Mermithidae from Sarek Mountain and Torne Lappmark.

Contains a check list of the species, notes on habitat in various localities and a systematic list of seven of these roundworms (three new), with diagnoses, measurements and critical notes.

Copy seen: MH-Z.

48192. STEINITZ, WOLFGANG, 1905-

. Geschichte des wogulischen Vokalismus. Berlin, Akademie-Verlag, 1955. is, 366 p. map, diagr., tables (incl. 1 fold.). Approx. 20 refs. Text in German. *Title tr.:* History of Vogul vocalism.

An analysis of the vocalism and vowelgradation of the language and dialects of the Voguls based primarily on the studies of A. Kannisto. The distribution, history, economy, customs, etc., of the Voguls are sketched (p. 1-11), vital statistics for 1905, 1926, 1939 are tabulated, and a schematic diagram of Vogul dialectal relationship given (p. 3). A vocabulary (p. 342-62) and a list of loanwords from Ostyak, Turko-Tatarian, and Russian (p. 362-64) are appended. A phonemic transcription devised by the author and based on Latin and Greek characters is used. Copy seen: DLC.

48193. STEJER, FRANCIS ADRIEN, 1916- . Pyrite deposits at Horseshoe Bay, Latouche Island, Alaska. Washington, D. C., U. S. Govt. Print. Off., 1956. p. 107-122. 5 maps (1 fold.), table. (U. S. Geological Survey. Bulletin 1024-E. Mineral resources of Alaska.) 6 refs

At Horseshoe Bay, southwest Prince William Sound (60°01' N. 147°57' W.), the sulfide zone was explored in the early 1900's as a copper prospect; current interest is in sulfur. Replacement lenses of massive and disseminated sulfides occur in a mineralized zone in the slate-gray-

wacke. Primary sulfide minerals are pyrite principally, chalcopyrite, cubanite, sphalerite, pyrrhotite, arsenopyrite, and galena. Four claims are described, and spectrographic analyses are given for eight ore samples from one.

Copy seen: DGS.

48194. STELCK, CHARLES RICHARD, 1917—, and others. Middle Albian Foraminifera from Athabasca and Peace River drainage areas of Western Canada, Edmonton, Queen's printer, 1956. 60 p. 5 plates, map, diagr. (Research Council of Alberta, Report no. 75). Other authors: J. H. Wall, W. G. Bahan, and L. J. Martin.

Fifty-nine species and subspecies of Foraminifera (ten new) from the Clearwater, Grand Rapids and Joli Fou formations of the lower Athabasca drainage and from the lower part of the Fort St. John group of the upper Peace River area, are figured and described. Some occur also in Northwest Territories and Alaska. Microfaunal zones are equated to megafaunal sequences of the Middle Albian substage of the lower Cretaceous. The calcareous foraminiferal fauna of the lower Clearwater formation is found also in the lower Moosebar shale of northeastern British Columbia and in the Wilrich member of the Spirit River formation The foramiin northwestern Alberta. niferal assemblages indicate a transgressive shallow epicontinental sea with brackish margins. Copy seen: DLC.

STEMLER, FRED W., see Hiestand, W. A., and others. Relative toxicity . . . 1956. No. 45544.

STENE, ARTHUR, see Johnsen, O. Meteorologi og oseanografi for sjøfolk . . . 1953. No. 45806.

48195. STENGERT, KRZYSZTOF, and W. JURCZYK. Reakcja organizmu na zimno i jego praktyczne zastowowanie w chirurgii. (Polski tygodnik lekarski, Oct. 1955. rok 10, no. 42, p. 1381–86.) 61 refs. Text in Polish. *Title tr.:* Response of the organism to cold, and its practical application in surgery.

Review article on temperature and temperature regulation in the animal kingdom; the physiological effects of cold environment; hypothermia; early attempts to use cold as an anesthetic recent and current developments in surgical hypothermia; application in other

medical fields; methods of inducing hypothermia, etc.

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STENGERT, KRZYSZTOF, see also Bogacki, B., and others. Badania doświadczalne nad . . . 1956. No. 44067.

48196. STENSGÅRD, ERLING. Den danske søfarer og opdagelsesrejsende Vitus Bering, 1681–1741, i den danske litteratur og presse, en bibliografi. Horsens, Vitus Bering-komitéen, 1941. 19 p. Text in Danish. *Title tr.*: The Danish seafarer and explorer Vitus Bering, 1681–1741, in Danish literature and press, a bibliography.

Fifty-eight major works and several minor ones, pub. 1730 to 1939, are listed and their contents described. They deal with Bering, and geographical features bearing his name. *Copy seen*: DLC.

48197. STEPANOV, N. N. S. P. Krasheninnikov, issledovateľ Kamchatki. (Akademia nauk SSSR. Institut ėtnografii. Trudy, 1956. nov. seria, t. 30, Ocherki istorii russkol ėtnografii, fol'kloristiki i antropologii, vyp. 1, p. 110–35.) Approx. 40 refs. Text in Russian. Title tr.: S. P. Krasheninnikov, the explorer of Kamchatka.

Describes Krasheninnikov's studies of the culture, customs and languages of the Kamchadals, Kurils, Koryaks, and Chukchis in the early 18th century, his study on the conquest of Kamchatka, accounts of the fauna and flora, etc. His classic narrative Opisanie zemli Kamchatki (No. 9265) and other publications are discussed. Changes in his text required by tsarist censorship are analyzed, and the importance of his evaluations of the culture, cosmography and mythology of primitive peoples is stressed.

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48198. STEPANOV, P. A. Sady v ÎAkutii. (Agrobiologiîa, Nov.-Dec. 1956, no. 6 (102), p. 136.) Text in Russian. Title tr.: Orchards in Yakutia.

Notes experiments in fruit growing by P. S. Osin at Mukhtuya (60°42′ N. 114°54′ E.) in western Yakutia. After failure of first attempts in 1940, he applied Michurin's methods of selection and succeeded in building up a valuable nursery of frost-resistant fruit trees. Osin's work is being continued by young naturalists at the local high school and their school orchard has been producing since 1953. Copy seen: DLC.

48199. STEPANOVA, M. V., and I. S. GURVICH. IUkagiry. (In: Akademia nauk SSSR. Institut ėtnografii. Narody Sibiri, 1956. p. 885-96, illus.) 12 refs. Text in Russian. Title tr.: Yukaghirs. The Yukaghirs (443 in 1926) divided into several ethnically and linguistically differentiated groups, live between the Yana and Indigirka Rivers, in the Chukoch'ya basin (between the lower Alazeya and Kolyma) and along the tributaries of the upper Kolyma (Korkodon, Balygychan, Yasachnaya). Their archeology and history are mentioned and their use as guides by Russian explorers seeking land routes to the Anadyr', Penzhina Rivers, etc., is noted. Their 17th-19th century reindeer and 20th century fur-animal hunting and trapping, aquatic bird netting, and fishing are described. The means of travel (dogdrawn sledges, river rafts, dugouts, etc.), housing (various types of nomadic tents), artifacts (bone and horn predominating, stone implements, rudimentary metal smelting), clothing, food, etc., are dealt Tribal organization (traces of with. original matriarchate), assimilation by neighboring Yakuts, Tungus, Lamuts and Chukchis, marriage customs (exogamy, prenuptial intercourse), religious beliefs (shamanism and "deification" of defunct shamans, animal cults), pictographic writing and primitive sketch maps of nomadic routes, folklore, etc. are discussed. The post-Revolutionary period is briefly sketched: transition to settled life, creation of kolkhozes, etc. The collaboration of V. V. Khramova is acknowledged. Copy seen: DLC.

STEPANOVA, NINA ALEKSEEVNA, 1906–, see Putnins, P., and N. A. Stepanova. Climate . . . Eurasian Northlands. 1956. No. 47479.

STEPANOVA, NINA ALEKSEEVNA, 1906–, see also Zikeev, Nina Alekseevna.

48200. STEPHENS, J., and S. APPLE-BY. Polyneuropathy following induced hypothermia. (American Neurological Association. Transactions, 80th meeting, 1955, pub. 1956, p. 102-104).

A report based on a study of ten patients, both pre- and postoperatively, with information on symptoms, etiology

and two case histories.

Copy seen: DNLM.

48201. STERNBERG, HANS-GÜN-THER. Das Norwegische Polarinstitut und die norwegische Polarforschung nach dem Kriege. (Erde, 1956. Heft 3-4, p. 290-96, text map.) 13 refs. Text in German. *Title tr.:* The Norsk Polarinstitutt and Norwegian polar research after the war.

Notes expansion of polar research by many countries since World War II; history of the Norsk Polarinstitutt since before World War I and its explorations in Svalbard since 1920; scientific personnel in the Institutt; exploration and mapping in Svalbard 1946-1955 (in some detail), and, briefly, work in Jan Mayen, northeast Greenland, and the Antarctic.

Copy seen: DGS.

STEVEN, DAVID M. 48202. Small mammal communities of the north Scandinavian birch forest. (Journal of animal ecology, 1955. v. 24, no. 2, p. 403-411, illus., tables.) 10 refs.

An analysis of a collection of shrews and mice from northern Norway, mainly from Rosta (68°58' N. 19°42' E.). Following a description of the local vegetation, the animals are discussed with respect to population densities and changes; comparison is made with other populations and catch rates. Altogether six species with 218 animals are analyzed in terms of their distribution among the local habitats. Copy seen: DA.

48203. STEVENS, C. E., and others. The response of the pituitary-thyroid system of the guinea-pig to low environmental temperature. Randolph AFB, Texas. April 1956. 11 p. illus., tables. (U. S. Air Force. School of Aviation Medicine. Report no. 55-21.) 35 refs. Other authors: S. A. D'Angelo, K. E. Paschkis, A. Cantarow and F. W. Sunderman. Similar to No. 42668.

Report on experiments with animals exposed for one to eleven weeks to an environment of 7 ± 2° C. Histological, physiological and chemical observations indicate that heat production during cold exposure is maintained chiefly by activation of the pituitary-thyroid system, with increased secretion of thyrotropic and thyroid hormones. Copy seen: DNLM.

48204. STEWART, GEORGE RIPPEY, 1895- . The name Alaska. (Names, Dec. 1956. v. 4, no. 4, p. 193-204.) 20 refs.

Linguistically an Aleut origin, in a word meaning "mainland" or "continent," is favored. Until 1867 "Alaska" referred to Alaska Peninsula, while the colony as a whole was known as Russian America, a term replaced by Alaska by Oct. 1867 though not officially adopted at that time. Three official sponsors of the name are suggested, W. H. Seward, C. Sumner, and H. W. Halleck, and excerpts from their speeches are given. Copy seen: DGS.

STEWART, ROBERT EARL, 48205. 1913- , and J. W. ALDRICH. Distribution of maritime and prairie populations of blue-winged teal. (Biological Society of Washington. Proceedings. May 21, 1956. v. 69, p. 29-34.) 7 refs.

Contains a description of the Atlantic blue-winged teal, Anas discors orphna n. subsp., occurring during the breeding season at Nattabisha Point and Moose Factory, northern Ontario; and distributional data on A. d. discors recorded at Fort Resolution on Great Slave Lake, Mackenzie District, and in Keewatin District. Copy seen: DA.

STIASNY, GUSTAV, 1877-48206. and H. VAN DER MAADEN. Über Scyphomedusen aus dem Ochotskischen und Kamtschatka Meer nebst einer Kritik der Genera Cyanea und Desmonema. (Zoologische Jahrbücher. Abt. für Systematik, Geographie und Biologie, 1943. Bd. 76, Heft 3, p. 227–66, 15 55 refs. Text in German. Title illus.) tr.: On Scyphomedusae from the Okhotsk and Kamchatka Seas with some criticism of the genera Cyanea and Desmonema.

Contains critical notes on a small collection (20 specimens) of these medusae obtained in 1936 by Prof. K. Derfügin (who died in 1938), together with a hydrographic and faunistic survey of the region. A critical revision follows of 17 species of Cyanea and two of Desmonema. Among them are C. arctica (northern Norway), C. ferruginea (Aleutian waters) and C. postelsii (Aleutian and Sitka waters). Copy seen: DSI.

48207. STICKNEY, PALMER BLAINE, 1915- , and W. J. MUELLER. Effect of cure on low-temperature and aging properties of nitrile rubbers. (Rubber world, May 1956. v. 134, no. 2, p. 234-38, diagrs., ports., tables.)

Experimental details and results are given of an investigation to determine the relative effectiveness of various levels of the vulcanizing agents in conventional sulfur-accelerator and thiuram-disulfide type curing systems on the relation among heat resistance, oil resistance, and lowtemperature serviceability of nitrile-type synthetic rubbers. Improved balance between oil resistance and low-temperature serviceability is particularly important for military applications in the The best balance among the Arctic. three environmental-resistance properties was found in stock cured with 3 phr. of tetramethyl thiuram disulfide and 0.2 phr of sulfur. The best balance for sulfurcured stocks was obtained with 2 phr of sulfur. A better balance of properties after aging was obtained with thiuramcured stocks. Copy seen: DLC.

48208. STILGENBAUER, FLOYD A. An improved (polar) lobate globoid grid for a polar map of the world and its significance in air navigation. (Michigan Academy of Science, Arts, and Letters. Papers, 1946, pub. 1948. v. 32, p. 265–84, diagrs., charts, maps (1 fold.), tables.)

An improved polar map is described which is a correct interrupted conformal grid, symmetrical in form, equal in area, and extraordinarily correct in shape, direction, and distance relationships. The improved grid is a secant cone construction with the standard parallel at 70° N. This provides no breaks in the land masses except in the Antarctic. Examples of the application of this grid for airplane navigation is given.

Copy seen: DLC.

STIRLING, MATTHEW WILLIAMS, 1896—, see National Geographic Society. National Geographic on Indians . . . 1955. No. 46941.

48209. STOCKHOLM. HANDELS-HÖGSKOLAN. Affärsekonomiska forskningsinstitutet. De norrländska hemma marknadsindustriernas transport-kostnader. Stockholm, 1944. vi, 122 p. diagrs., tables, text maps. Text in Swedish. Title tr.: Transportation costs of the home market industries in Norrland.

Problem of higher transport costs for Norrland's industrial goods, resulting from its geographical position, are analyzed in anticipation of planned investigation of Norrland's economic possibilities. Norrbotten and Västerbotten, from which export production is high, are contrasted with southerly Norrland. Consideration is given to mining, forestry, fishing, and agricultural products in different stages of processing, technical and chemical

products, power and electricity, and their varying means of transport.

Copy seen: DLC.

STOCKSTAD, DWIGHT S., see Craighead, J. J., and D. S. Stockstad. Measuring hunting pressure . . . Canada . . . 1956. No. 44482.

STOCKTON, F. D., see Nielsen, L. E., and F. D. Stockton. Flow patterns in glacier . . . 1956. No. 47024.

STOCKTON, F. D., see also Nielsen, L. E., and F. D. Stockton. Flow patterns in glacier ice. 1956. No. 47025.

STØRMER, LEIF, 1905-, see Strand, T., and L. Størmer. Norvège . . . 1956. No. 48224.

**48210.** STØRMER, PER. New records of Norwegian bryophytes. (Blyttia, 1947. bd. 5, hefte 4, p. 119–31, text map.) 23 refs.

Contains an annotated list of 30 mosses and seven hepatics with data on habitat and distribution. Plagiothecium undulatum found at Berg in Troms (69°25' N.) and Hylocomium loreum, occurring at Sørøysund in Finmark (73°35' N.) are included.

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48211. STØRMER, PER. Nøkkel til de norske *Phalaris*-artene. (Blyttia, 1950. bd. 8, hefte 4, p. 156–59, illus.) Text in Norwegian. Summary in English. *Title tr.*: Key to the species of Norwegian *Phalaris*.

The illustrated key to identification of this grass in Norway, accompanied by brief description and distributional data. Some arctic references are included.

Copy seen: DLC.

48212. STOFFREGEN, WILLY. Allsky camera auroral research during the Third Geophysical (Tellus, Nov. 1955. v. 7, no. 4, p. 509–517, 5 illus., text map, 2 diagrs., graph.) 2 refs.

A new type of auroral camera covering the entire sky has been developed in Sweden. Requirements, mechanism and optical properties are described, also the interpretation of aurora films. Continuously-running cameras of this type will be used during the IGY. at Tromsø, Abisko, Malmberget, Alvsbyn (Luleå), and Lycksele. Ionosphere records will be stationed at Tromsø, Kiruna, Luleå, Lycksele, Oslo, and Uppsala.

Copy seen: DWB.

STOÑNOVSKIĬ, S. V., see Berkovich, E. M., and S. V. Stoîanovskiĭ. Vlifanie belogo i monokhromaticheskogo sveta . . . 1956. No. 43999.

48213. STOIBER, RICHARD EDWIN, 1911—, and others. The source area and age of ice-island T-3. Hanover, N. H., Dartmouth College, Dept. of Geology, Nov. 1956. 100 l. diagrs., illus., tables. 58 refs. The research reported in this document has been sponsored by the Geophysics Research Directorate of the Air Force Cambridge Research Center, Air Research and Development Command. Final report under Contract no. AF 19 (604)-1075. Other authors: J. B. Lyons, W. T. Elberty, and R. H. McCrehan.

"Petrographic and mineralogic examination of rocks collected from the surface of T-3 as well as of dusts collected from the surface ice and from ice cores, reveals that the debris originated from an area underlain partly by altered basic volcanics and partly by middle- to highgrade metamorphics and granites. From what is known of the geology of areas bordering the Arctic Ocean, the most probable former sites of T-3 appear to have been either the Cape Bourne or Yelverton Bay areas of northern Ellesmere Island. T-1 evidently has the same provenance. Geologic dating of T-3 is inconclusive. It has not proven possible to tie the mineralogy of the dusts into well-known historic events, such as the eruptions of Vesuvius (79 A. D.) or Krakatoa (1883). On the other hand, black magnetic micrometeoritic spherules have been recovered from surface dusts and dusts in ice cores from the island. The relative scarcity of these micrometeorites, along with what is known concerning their probable rate of accretion on the earth's surface, suggests that the age of T-3 may be only a few hundred years or less."-Author's abstract.

Copy seen: NhD.

STOLPE, STANLEY G., see Sargent, F., and others. The physiological basis . . . constituents in survival rations, 2; the efficiency . . . moderate cold. 1955. No. 47799.

48214. STONE, ALAN, 1904—, and K. L. KNIGHT. Type specimens of mosquitoes in the United States National Museum: II, the genus Aedes, Diptera, Culicidae. (Washington Academy of

Sciences. Journal, July 1956. v. 46, no. 7, p. 213-28.) 16 refs.

Contains an annotated list of 132 species, followed by a simple list of about 100 species "based either on unique specimens or on clearly designated holotypes." Culex borealis (Fort Gibbon, Alaska), Aedes callithotrys (Whitehorse, Y. T.), A. mercurator (Dawson, Y. T.) and A. prolixus (Anchorage, Alaska), are included.

Copy seen: DLC.

48215. STONE, C. P., and W. A. MASON. Effects of hypophysectomy on behavior in rats, 3; thermoregulatory behavior. (Journal of comparative and physiological psychology, Oct. 1955. v. 48, no. 5, p. 456-62, illus., tables.) 11 refs.

Hypophysectomized rats built better insulated nests in cold environment than normal controls. The operated animals, when given a choice, preferred a warm environment (75° F.) to a cool one (45° to 60° F.), both activities are due to impaired heat production in the hypophysectomized animals. Parts 1-2 of this study do not involve low temperatures.

\*\*Copy seen: DNLM.\*\*

48216. STONE, HRANT H., and others. The effect of lowered body temperature on the cerebral hemodynamics and metabolism of man (Surgical forum, 1956. v. 6, p. 129-34, tables.) 8 refs. Other authors: T. N. MacKrell, M. R. Truter, C. Donnelly, and A. S. Frobese. Similar report by Stone, C. Donnelly and Frobese pub. in Surgery, gynecology and obstetrics, Sept. 1956, v. 103, no. 3, p. 313-17.

A quantitative study of stated aspects during general hypothermia in three volunteers. Cerebral blood flow decreased in all subjects with body temperature. With shivering controlled and anesthesia deep, brain metabolism could be reduced 76 percent at body temperatures of 83° F. In the presence of shivering cerebral O<sub>2</sub>-demand may be increased 100 percent at the same body temperature.

\*\*Copy seen: DNLM.\*\*

STONE, KIRK HASKIN, 1914—, see Chapman, R. M., and others. Geological and geographical research in Alaska's future development . . . 1954. No. 44311.

48217. STORDAL, JENS. Utbredelsen av noen *Boletus*-arter i Norge. (Blyttia, 1955. bd. 13, hefte 3, p. 71-78, 3 text maps.) 13 refs. Text in Norwegian. Summary in English. *Title tr.*: Distribution of some species of *Boletus* in Norway.

Two of these fungi, B. miniatoporus and B. cyanescens, are reported in Nord-Trøndelag and Sør-Trøndelag.

Copy seen: DLC.

48218. STORGAARD, EINAR, 1890—. Om nordboernes rejser til Vinland. København, Folkeuniversitetsudvalget, i kommission hos Munksgaard, 1950. 16 p., maps. (Grundrids ved folkelig universitetsundervisning, nr. 481.) 20 refs. Text in Danish. Title tr.: On the Norsemen's travels to Vinland.

Notes migration after 872; settlements on Greenland the earliest probably near Angmagssalik, those later (about a hundred years) on the west coast; voyages to the North American coast, identification of Viking sites there, etc.

Copy seen: DLC.

STOROZHEVA, M. M., see Lavrov, A. V., and Z. N. Aref'ev. Metodicheskoe soveshchanie pochvovedov . . . 1956. No. 46271.

48219. STORRAR, ANDREW G. Cold weather tests on shaped charges for hole driving at Ft. Churchill, Manitoba, winter 1948-49. Ft. Monmouth, N. J., Signal Corps Engineering Laboratories, 12 April 1949. 7 1., 6 illus., 5 tables. (U. S. Army. Signal Corps. Test report no. T-1198.)

Determinations of the effectiveness of shaped charges in driving holes in ice and frozen soil for guy stakes and transmission poles were made. The experimental set-up is described, and data on the depths and diameters of the holes are tabulated. The tests were conducted under varying terrain conditions at temperatures from  $-18^{\circ}$  to  $-32^{\circ}$  F. in winds from 10-25 mi./hr.

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48220. STOTSENKO, A. V., and A. M. BATALIN. Gidrometeorologicheskie osnovy dobychi kontsentrata sole! na poberezh'e Okhotskogo morfa. (Akademifa nauk SSSR. Dal'nevostochny! filial. Trudy, serifa khimicheskafa, 1956. vyp. 2, p. 20–42, tables.) Text in Russian. Title tr.: Hydrometeorological conditions affecting recovery of salt concentrate on the shores of the Sea of Okhotsk.

Three methods of salt recovery for the fishing industry are described: by natural

(solar) evaporation, by freezing out, and by evaporation of salt concentrates obtained with the first two methods. Concentration of salinity at freezing varies with depth and with vertical distribution of salt content, from 29.8 to 32.9°/oc (gr./ kg.). Hydrometeorological conditions in the area are described in detail, with average and extreme data on air temperatures, wind, snow cover, soil freezing and permafrost, and on ice conditions in the bays and islands of the Sea. Effects of climatic change on salinity are discussed for different shore localities. Maximum salinity at natural freezing may approach 120°/00, with average near 80°/00. Evaporation of the salt concentrates is uneconomic at present due to fuel required, but local development of hydroelectric power is feasible. Problems of power production and location of plant sites along the coast are analyzed.

Copy seen: DLC.

48221. STOWE, LELAND, 1899—. Canada talks across the top of the continent. (Beaver, Autumn 1956. Outfit 287, p. 4-8, 5 illus.)

Describes use of radio-telephone in the Canadian North: for operations of the Marine Rescue Service which is integrated with the RCAF Search and Rescue organization; in prospecting, mining, forest fire-fighting, air ambulance services; development of radio-telephone equipment for dog sledges, snowmobiles, and tractor trains; regular communications between isolated outposts.

Copy seen: DLC.

STRALENBERG, 48222. PHILIP **JOHAN** TABBERT von. 1676-1747. Das nord- und ostliche Theil von Europa und Asia, in so weit solches das gantze Russische Reich mit Siberien und der grossen Tatarey in sich begreiffet, in einer historisch-geographischen Beschreibung der alten und neuern Zeiten . . . nebst einer noch niemahls ans Licht gegebenen Tabula polyglotta von zwey und dreyssigerlev Arten tartarischer Völcker Sprachen und einem kalmuckischen Vocabulario, sonderlich aber einer grossen richtigen I and-Charte von den benannten Ländern . . . Stockholm, 1730. 438 p. illus. plates, 3 fold. maps. facsms, fold. Title tr: The table. Text in German. northern and eastern part of Europe and Asia, as far as they include all the Russian Empire with Siberia and Tartary, in an historical-geographic description

of old and new times . . . with a not hitherto published Tabula polyglotta of thirty-two kinds of Tatar languages and a Kalmuk vocabulary, but especially with a large, correct map of the countries mentioned.

English translation, An historico-geographical description . . . London, 1738 (463 p. plates, map, table), in DLC.

Stralenberg, a Swedish army officer captured at the battle of Poltava in 1709 spent 13 years in captivity, mainly at Tobolsk (58°15' N. 68°30' E.). During this time he made first drafts of his map and collected the material on which this book is based. He describes in encyclopedic variety, things he saw and heard about. In his historical-geographical narrative, also in an alphabetically arranged miscellany (p. 308-438) he deals with government, church, military power, economics, mining, trade, etc., flora, fauna, peoples, settlements, etc. References to arctic areas and conditions occur throughout the work: boundaries, climate, etc., are dealt with in chap. 2-3 (p. 171, 179), the Kolyma-Kamchatka and the Far East region (p. 431-38), etc. An extensive index is added to the text. On Stralenberg's map see Arctic Bibliography, No. 17106.

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48223. STRAMENTOV, ANDREÏ EV-GEN'EVICH. Uborka snega s gorodskikh ulits; bor'ba s gololeditsef na gorodskikh dorogakh. (In his: Gorodskie ulitsy i dorogi. Moskva, 1955, p. 416–25, illus., tables, graphs.) Text in Russian. Title tr: Snow removal from streets and combat with sleet on urban roads.

Equipment currently used in the U. S. S. R. and performance data on snowplows, snow loaders, and special trucks for hauling snow are tabulated. A stationary snow melter is described in detail. Data on the traction of motorvehicle tires (low- and high-pressure) and on the weight of snow cover of various structures are used in the analysis of equipment performance. With sleet, two methods are used: (1) diluted solution of salt-water or dispersed hygroscopic salts (calcium chloride and magnesium chloride) on sidewalks; and sand, slag and ashes sprayed by light solution of calcium or sodium on automobile roads. Sand spreaders of various construction are briefly described with tabulated characteristics. Copy seen: DLC. 48224. STRAND, TRYGVE, and L. STØRMER. Norvège - Norge - Norway. (In: International Geological Congress. 20th, Mexico City, 1956. Lexique stratigraphique international, v. 1, Europe, fasc. 2a, p. 1–87, fold. map.) 128 refs.

An alphabetical listing of formations in Norway (including Nordland, Troms, Finnmark), giving source of original description and name of each formation, its composition, age, type locality, geographic distribution, fossils; literature. Geologic map accompanies text; an extensive bibliography is appended.

Copy seen: DGS.

STRAND, TRYGVE, see also Major, H., and others. Svalbard. 1956. No. 46563.

STRAUB, R. W., see Ritchie, J. M., and R. W. Straub. The effect of cooling . . . 1956. No. 47603.

STRAUSS, WILLIAM F., see Wolbach, R. A., and others. Skin temperature . . . experimental frostbite. 1956. No. 48997.

**48225.** STRECKER, ROBERT L. Food consumption of house mice at low temperatures. (Journal of mammalogy, Aug. 1955. v. 36, no. 3, p. 460-62, illus.) 6 refs.

Observations on four colonies of mice kept in an unheated room with temperatures ranging between 0° and 42° F. Food consumption declined with ambient temperature. This was found to be due to tendency of the animals to spend less time outside the dens, while feeding, on cold days, and by increasing their ambient temperature through huddling.

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STREET, E. R., see Ralli, E. P., and others. Effects of vitamin supplementation...cold stress...1956. No. 47509.

STREETS, RONALD E., see Howard, F. L., and others. Automotive antifreezes. 1956. No. 45624.

48226. STREIT, K. Zur Therapie der allgemeinen Unterkühlung. (Vierteljahrsschrift für schweizerische Sanitätsoffiziere. Nov. 1955. Jahrg. 32, No. 4, p. 247–51.) 20 refs. Text in German. *Title tr.*: On the therapy of general hypothermia.

Contains report of a case of accidental general hypothermia in a woman aged 40, with rectal temperature of 23° C. Symptoms, therapy, laboratory findings, course and recovery are discussed;

therapy of similar cases, as applied by other authorities is reviewed. Rewarming and oxygen respiration were the main therapeutic means applied in the present Copy seen: DNLM.

48227. STRELKOVA, OL'GA STEPA-NOVNA. Mikorizy rastenii tundry i lesotundry na Talmyre. (Botanicheskil zhurnal, Aug. 1956. t. 41, no. 8, p. 1161-68, 11 illus.) 25 refs. Text in Russian. Title tr.: Mycorrhiza of the tundra and forest-tundra plants on Taymyr Peninsula.

Mycorrhiza and mycotrophic plants were studied from material collected by B. A. Tikhomirov in 1949 in moss associa-· tions of spotted tundras, including a few small shrubs of Ericaceae, Vacciniaceae and Betulae. The plants investigated are listed: 104 species in 26 families, of which 39 had mycorrhiza. Tundra and foresttundra conditions are not considered beneficial for the symbiosis of soil fungi and higher plants. The results of the study, however, are not conclusive.

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48228. STREL'NIKOV, I. D. K poznaniiu fauny Karskogo moria (Contribution to a knowledge of the fauna of the Kara (In: Izvestiia Petrogradskogo nauchnogo instituta imeni P. F. Lesgafta (Bulletin de l'Institut Scientifique de St.-Petersburg (de l'Institut Lesshaft)) Izdanie soveta instituta pod redaktsiei direktora instituta Nikolaia Morozova, tom VI, str. 71-80, Petrograd, 1923. Translated by L. G. Robbins. Edited by C. S. Janifer, Jr. [Washington, D. C., U. S. Hydrographic Officel, Dec. 1955. (U. S. 8 p. table. Mimeographed. Hydrographic Office. H. O. translation 310.)

English translation of No. 26504. Copy seen: DN-HO.

48229. STRENZKE, KARL von, and Microfaune du sol de l'Eqe, Groenland; vol. 1, arachnides. Hermann, 1955. 84 p. illus. incl. 8 plates, fold. map. (Expéditions polaires francaises, VII; pub. as Actualités scientifiques et industrielles, no. 1232.) 89 refs. Text in French or German, summary in both. Title tr.: Microfauna of the soil of Eqe, Greenland; volume 1, arachnids. Other authors: H. de Lesse and J. Denis.

The topography of Eqe (69°45' N. 50°15' W.) on West Greenland, its soil, freshwaters and vegetation are described by de Lesse (in French, p. 5-13) with account of the biotopes investigated in summer 1949, and the collecting methods used. The senior author (p. 14-64 in German) deals with Oribatides (Acarina), their occurrence in the area, taxonomy, ecology and phenology, size, and geographic distribution. Some 38 species are described including their anatomy and morphometry. Three ecological groups are distinguished and a similar number with reference to geographic distribution. In chap. 3, (p. 65-67 in French) J. Denis deals with spiders. seven forms being described and their location, taxonomy, ecology, etc., noted. In a foreword Paul Émile Victor presents a summary of the Expéditions polaires françaises 1948-1953, in particular the Greenland missions of 1949 which he led, and on which de Lesse was naturalist.

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STROCHKOV, A. A., see Dobroserdov, A. A., and A. A. Strochkov. Mekhanizatsifa ochistki . . . perevodov ot snega. 1956. No. 44635.

48230. STRÖM, KAARE MUNSTER, 1902- . The alga-flora of the Sarek Mountains. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907-1939. Bd. 3, Botanik, Lfg. 5, pub. 1923. p. 437–521, 7 illus., plates 12–16.)

Algae-containing samples are enumerated, and a systematic account is given of 324 algal species with data on ecology, biology and distribution. The phytoplankton of lakes in the Sarek district may be characterized as belonging to the arctic type of the Caledonian plankton similar to that of other Lapland and Finnmark lakes. The plankton of Vassijaure, Torneträsk and Katterjaure is treated separately (p. 507-514) with comment upon noteworthy species. A species index is appended.

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48231. STRÖM, KAARE MUNSTER, Snow algae (cryoplankton) from the Sarek Mountains. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges Schwedisch-Lappland, 1909-1939. Bd. Botanik, Lfg. 5, pub. 1923. p. 522-24.)

Ten samples are analyzed and their algal contents enumerated. Chlamydomonas nivalis, which causes red snow, the most common and abundant species, was on or near the snow surface where, red in color, it absorbs radiant heat; Chionaster nivalis and Ulothrix flaccida occurred in thawed water on a glacier, an undetermined species of Stigonema was also found.

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**48232. STROUD, JOHN.** Rotary wing postmen. (Air BP, Dec. 1956, no. 2, p. 16–18, 8 illus.)

A brief illustrated account is given of the use of helicopters for regular scheduled mail services between Stockholm and the islands of the Stockholm archipelago during the three months that the sea is frozen over. The service, initiated in Jan. 1948, covers a circuit over 150 mi. operating each weekday and serving 20 points. Other uses of the helicopter in this area are mentioned.

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48233. STRUGOV, A. S. Perspektivy uglenosnosti i kharakter uglei zapadnoi chasti Viliūiskoi vpadiny. (Akademiña nauk SSSR. Laboratoriña geologii uglfa. Trudy, 1956, vyp. 6. Materialy vtorogo ugol'nogo geologicheskogo soveshchaniña, p. 580–90, diagrs., tables, map.) 7 refs. Text in Russian. Title tr.: Coal-bearing possibilities and coal characteristics in the western Vilyuy depression.

Contains an outline of the stratigraphy, tectonics, coal reserves in the region of the middle Vilyuy basin at the confluence of the Markha River, approx. 62°-64° N. The petrographic and chemical properties of the coal are presented; fifteen main deposits are briefly described in turn and their location is shown on a schematic geological map.

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48234. STUDENTSOV, P., and S. PRO-KHOROV. Steny vysokol uteplennosti. (Arkhitektura SSSR, 1956, no. 10, p. 29–30, diagr.) Text in Russian. *Title* tr.: Building walls with high thermal resistance.

Thermal resistance of concrete wall panels with built-in air spaces, empty or filled with various insulating materials, is analyzed in comparison with a brick wall of equivalent thickness. The resistance of a wall 2½ bricks thick is considered about 0.978 m². °C. hr/kg.: cal.; hollow wall is 1.5; and one with slag filler: 1.2 m². °C. hr/kg.: cal. The last type of wall allows 32 percent economy in fuel for heating the building. Construction cost per cu. m. of brick wall is about 140 rubles, and that of hollow concrete with organic insulation filler is 113 rubles, or 80 percent, and its thermal resistance

is greater by 2.2 m<sup>2</sup>. °C. hr./kg.: cal. In a five-story building this fuel economy hastens amortization of construction costs 200 percent. *Copy seen:* DLC.

STUDIES ON THE HELMINTH FAUNA OF ALASKA, see Babero, B. B. Studies . . . helminth fauna of Alaska, 16 . . . parasites of ptarmigan . . . 1953. No. 43800.

Rausch, R. L., and others. Studies . . . helminth fauna of Alaska, 27 . . . larvae of Trichinella spiralis . . . 1956. No. 47529.

Rausch, R. L. Studies . . . helminth fauna of Alaska, 28 . . . Diphyllobothrium dalliae, n. sp. . . . 1956. No. 47530.

dalliae, n. sp. . . . . . . . . . . . . . helminth fauna of Alaska, 30 . . . . Echinococcus multilocularis . . . . . . . . . . . . . . . helminth Schiller, E. L. Studies . . . helminth

Schiller, E. L. Studies . . . helminth fauna of Alaska, 15 . . . cysticereus of Taenia polyacantha . . . 1953. No. 47828. Schiller, E. L. Studies . . . helminth fauna of Alaska, 29: Urinalrema aspinosum n. sp. . . . 1956. No. 47829.

48235. STUMP, RICHARD W., and C. J. ROY. Geomorphic relations of silt deposits in the Matanuska valley, Alaska. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1737–38.)

Abstract of paper submitted for Society meeting in Minneapolis, Oct. 31-Nov. 2, 1956. During last glacial maximum, present areas of significant silt deposits were occupied by Knik ice. Alluvial deposition of the Matanuska River during the ice retreat, and chronological relation of the silt deposits to the alluvial forms are discussed. Silts are older than the Knik flood plain which has been assumed an important source area. Prevailing colian theory for origin of the silts must be revised.

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48236. STUMP, RICHARD W., and others. Properties and geologic occurrence of silt deposits in the Matanuska valley, Alaska. Ames, Iowa, June 1, 1956. iv, 89 l., 24 illus., diagrs., maps, 5 tables on 17 l. (Iowa State College. Engineering Experiment Station, Final report I. Project 320—S. Contract Nonr-530(04), Geography Branch, Office of Naval Research) 38 refs. Other authors: R. L. Handy, D. T. Davidson, C. J. Roy, and L. A. Thomas.

Contains a summary of the various geologic and engineering properties of the Matanuska valley silts and descriptions of the silt relationships and geomor-A previous progress report (No. 48237) includes field descriptions of the Matanuska valley silts, a preliminary account of their various properties, and a detailed account of their thickness and particle-size distribution. Additional data derived from tests and field work since 1 June 1955 are included in this final report. A comparison is made of the silt properties with materials of similar particle-size distribution found in the United States. Petrographic analysis of several samples indicates that the silts have a mineral composition similar to that presently being carried by both the Matanuska and Knik Rivers. The silts may be composed of as much as 50 percent slate and/or phyllite rock fragments. Quartz is another abundant constituent. Differential thermal and X-ray analysis indicates chlorite is the dominant clay mineral, although some illite and possibly kaolinite are also present. Plasticity varies only slightly in the silts. Standard Proctor densities are slightly lower and C. B. R. values slightly higher for the silts than for loess. Various theories of origin of the silts are described and assessed on the basis of the various Copy seen: CaMAI. silt properties.

48237. STUMP, RICHARD W., and others. Property studies of Alaskan silts in the Matanuska valley, Big Delta and Fairbanks areas. Ames, Iowa, Dec. 1, 1955. 3 p. l., ii, 38 l., 37 illus., diagrs., maps on 19 l., tables. (Iowa State College. Engineering Experiment Station, Progress report. Project 320–S. Contract Nonr – 530 (04) Geography Branch, Office of Naval Research) 8 refs. Other authors: R. L. Handy, D. T. Davidson, and C. J. Roy.

Contains results of the first year's (1954) work on silty materials of the Matanuska valley; data from field studies and laboratory tests are included. Sample locations were selected along five traverses, and in a grid pattern. The silts overlie a variety of glacial and alluvial deposits as a surficial deposit. The thickest silts are north of Palmer, with the thickness decreasing west of the Matanuska River toward the south and west; east of the river distribution varies. Particle size generally decreases with decreasing thickness and shows little variation vertically except in the basal portion where the material is usually much coarser. Five, possibly

six, volcanic ash layers are present in the thick silt, but only remnants in the thin silt sections. Mechanical analyses and consistency limits of all 91 samples showed 92 percent classified texturally as silty loam, and 85 percent had an engineering classification of A-4(8). The plasticity index averaged 3.54. A preliminary survey of the Big Delta region and a reconnaissance of the Fairbanks area were made. Copy seen: CaMAI.

48238. STUPFEL, M. A., and J. W. SEVERINGHAUS. Internal body temperature gradients during anesthesia and hypothermia and effect of vagotomy. (Journal of applied physiology, Nov. 1956. v. 9, no. 3, p. 380–86, illus., tables.) 24 refs.

Contains account of observations on temperatures of man and dog, in the heart, lower oesophagus and rectum; their differentials and changes during cooling and rewarming; similar changes following vagotomy were studied in dogs.

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STUPFEL, M. A., see Severinghaus, J. W., and M. A. Stupfel. Augmentation de l'espace mort respiratoire . . . hypothermie. 1955. No. 47909.

STUPFEL, M. A., see Severinghaus, J. W., and M. A. Stupfel. Effects of hypothermia on pulmonary function. 1956. No. 47910.

STUPFEL, M. A., see Severinghaus, J. W., and M. A. Stupfel. Respiratory physiologic studies . . . hypothermia. 1956. No. 47911.

48239. STUXBERG, ANTON JULIUS, 1849–1902. Om Nord-Amerikas oniscider. (Svenska vetenskapsakademien. Öfversigt af förhandlingar, 1875. årg. 32, no. 2, p. 43–63.) Text in Swedish. Title tr.: On North American Oniscoidae.

Contains a check list of 29 species of sow bugs, a synoptical table giving distribution in nine North American regions and an annotated list of 29 freshwater forms, of which one genus and three species are described as new. Ligia pallasii, native to Unalaska, is included.

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48240. SUBBOTIN, A. I. K voprosu o zimnikh profsessakh na severovostoke Azii. (In: Khromov, S. P. Sinopticheskie profsessy Dal'nego Vostoka, 1940. p. 5-63, tables, maps, graphs.) 4 refs. Text in Russian. Title tr.: Problems of

winter synoptic situations in northeastern Asia.

Atmospheric circulation during winters 1935-1938 is described on the basis of old records and the author's observations. Geographic and topographic characteristics of the region are covered from 55° to 63° N. and 135° to 165° E. with numerous charts. Description of fauna, flora and permafrost conditions are given for four regions: Udskiy, Ayanskiy, Okhotskogizhiginskiy and Penzhinskiy. Special features of the Sea of Okhotsk and the Bering Sea are described with ice characteristics during autumn, winter and spring. General air circulation is analyzed in connection with specific climatic changes from the Lena basin and Yakutsk to the Indigirka and Kolyma basins, Chukotsk Peninsula, Bering Sea, and Aleutian Islands. Topography of the Nagayeva Bay area on the Sea of Okhotsk is described in detail (p. 27-30) with tabulated meteorological Movements of air masses and data. major fronts are analyzed in relation to the continental polar and arctic air currents from the Yakutsk region to Sea of Okhotsk. Movements of warm polar ocean air of Pacific origin are initiated from the Kuril to Commander Islands, and after rising they are directed north to Vrangel Island. The north-Okhotsk arctic front movement is discussed. Typical winter synoptic processes are classified into three main groups: frontal processes; western, connected with the Siberian maximum; and eastern, connected with the Aleutian maximum.

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**48241.** SUCKSDORFF, E. The geophysical observatory Sodankylä. (Geophysica, 1952. v. 5, no. 1, p. 17–47, illus.,

map.) 3 refs.

Laboratory facilities and research program of this Finnish Observatory located along the river Kitinen at 67°22' N. 26°39' E. are described. A temporary observatory was operated at this location during the First International Polar Year. The first permanent buildings were erected in 1913 and actual operation began on Jan. 1, 1914. For ten years, the station was the only permanent observatory within the Arctic Circle. It was demolished by German forces in 1944. Reconstruction was started on Jan. 1, 1946, and the magnetic recording work was resumed. A survey of the various branches of geophysical work formerly carried on is given, including geomagnetism, earth currents, induction currents, auroral observations, atmospheric potential gradient, and solar radiation, and meteorology. Personnel are mentioned and some publications cited. The rebuilt station functions so far solely as a geomagnetic observatory. A meteorological-aerological observatory nearby has been in operation since 1949.

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48242. SUCKSDORFF, E. The magnetic observatory Nurmijärvi. (Geophysica, 1952. v. 5, no. 1, p. 48.)

Laboratory facilities of this new Finnish observatory located at 60°30′ N. 24°39′ E. are described. Two magnetic houses were built in 1951 and recording work was started in April 1952.

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48243. SUCKSDORFF, E. Vom Polarlicht. (Suomalainen tiedeakatemia. Sitzungsberichte, 1951, p. 97–109.) Text in German. *Title tr.*: The aurora.

Auroras' visibility distribution over the earth's surface, and their relationship to electricity and magnetism are considered. Three auroral forms observed in Lapland are described: steady bow, wavering lights, and flame. Their relationship to each other and to magnetic intensity, and the space and time relationships are discussed to clarify some theoretical aspects of the origin and significance of auroras.

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48244. SUDA, ISAMU, and others. Effects of cooling on central nervous system responses. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 182.) Other authors: K. Koizumi and C. McC. Brooks.

Cooling of the cord caused marked increase of spinal reflex responses before depression set in. Similar results were obtained by cooling the blood supply to the cord or to the brain and by cooling the brain surface, alone, or in conjunction with blood cooling. The physiology of this phenomenon is analyzed and discussed.

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48245. SUDAKOV, A. A. K voprosu o tipe zhirootdeliteliâ dliâ kitobolnykh baz. (Rybnoe khozfâlstvo, May 1956. god 32, p. 35–37, illus.) Text in Russian. *Title tr.:* The type of oil separators for whaling bases.

Contains information on the working

principles of these machines; variants of the general method; types of separators corresponding to the various methods (four), with schematic plans and information on operation. *Copy seen*: DLC.

SUDARIKOV, V. E., see Mozgovoĭ, A. A., and others. Rabota . . . ėkspeditsii 1953 . . . 1956. No. 46879.

48246. SUDOSTROENIE. Kitobolnaiâ baza. (Sudostroenie, July 1956. god 22, no. 7, p. 6, illus.) Text in Russian.

Title tr.: Whaling base.

Outlines construction plan of a floating base for a whaling fleet, with following specifications: length 217.8 m., width 27.8 m., displacement 43,800 t., deadweight 26,700 t., two main engines of 7500 hp. each, speed 16 knots. The vessel is to supply the whaling fleet with fuel, fresh water and provisions; process the catch and store the products. Up to 48,000 t. of oil, 5,000 t. of frozen meat, 1,400 t. of frozen liver and 150 t. of endocrine material (for production of insulin), etc., can be accommodated at the end of the whaling season.

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**48247.** SUESS, HANS E. Absolute chronology of the last glaciation. (Science, Mar. 1956. v. 123, no. 3192, p. 355–57, illus., tables.) 20 refs.

Contains a reconstruction of the climate of the Northern Hemisphere for the last 100,000 years based largely on dating of radioactive deposits from the continent and the deep sea. Evidence is presented for two superimposed climatic fluctuations of 40,000 and 3,500 years each, the last glaciation covering at least two of the long periods.

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SUETOV, S., see Isaeva, A., and others. Issledovateli glubiny. 1956. No. 45722.

SUGAWARA, TERUO, see Itakura, C., and T. Sugawara. Dynamic tests . . . bituminous mixtures . . . pavement at low temperature. 1954. No. 45727.

48248. SUGAYA, JŪJI. Congelationstructure and frost-heaving ratio at Assan, Manchuria. Translated (from unpublished manuscript) by E. R. Hope. Ottawa, Jan. 25, 1956. 18 p. illus., diagrs., tables, map. (Canada. Defence Research Board. Directorate of Scientific Information Service. T 54 J.)

"Permafrost investigations during the thaw period from Sept. 29-Oct. 3, 1943 are described. The amount of frost heaving to be expected is calculated, and the origin of permafrost is discussed. Soil samples were taken both from the active layer (2 m. thick) and the permafrost layer; the ice structure, water content, and composition were analyzed. The structure of the permafrost layer was similar to that observed in heaved soils. The permafrost originated at the surface and was buried to its present depth by successive layers of soil washed down from slopes during repeated periods of melting. Data are tabulated on soil temperatures to a depth of 2.20 m., on the amount of frost heaving in individual layers and in its entirety and on grainsize distribution in the active and permafrost layers. Soil profiles are diagrammed, and a formula for calculating the frostheaving ratio is presented."-SIPRE.

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**48249.** SUGIURA, MASAHISA. Notes on the auroral protons. (*In*: Alaskan Science Conference . . . 1952. Proceedings, *pub*. 1954, p. 32–33) 5 refs.

Contains discussion of research conducted at the Geophysical Institute, University of Alaska, on the depth of penetration of protons producing aurorae. A model atmosphere based on recent rocket data on pressure distribution.

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SUGIURA MASAHISA, see also Little, C. G., and others. Radio wave propagation . . . 1956. No. 46397.

SULAKVELIDZE, G. K., see Akademiîa nauk SSSR. Institut geografii. Voprosy izucheniîa snega . . . 1955. No. 43525.

48250. SULLIVAN, BERNARD JERE-MIAH, 1921-, and J. J. KELLEY. Influence of venous occlusion and procaine block on peripheral vascular responses to frostbite. (Journal of applied physiology, Mar. 1956. v. 8, no. 5, p. 504-508.) 12 refs.

In golden hamsters, peripheral vascular responses to frostbite showed three phases. The experiments reported indicated that the first phase is due to nervous reflex reaction; the second is a trend towards normal conditions; the third is due to a vasopressor substance originating in the injured tissue.

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SULLIVAN, PAUL R., see U. S. Office of Naval Operations. Canadian North, 1956. No. 48635. 48251. SUMGIN, MIKHAIL IVANO-VICH, 1873-1942. Led v vechno merzlykh gruntakh. (*In*: Veinberg, B. P., and others: Led . . . 1940. p. 460-90, illus., table, map, diagr.) 16 refs. Text in Russian. *Title tr.*: Ice in permafrost.

Ground conditions are analyzed and classified in respect to duration of permafrost and geographic location. Intensity of permafrost or depth of its penetration is tabulated for different Russian localities. Permafrost is also classified according to the origin of the ice. Quantitative properties of frozen ground (moisture, volumetric ice content, water penetrability, etc.) are discussed and analytically formulated. Processes of water migration and freezing of top layers with "naled's" or their deformation with heaves ("puchenie") are explained with illus. Mechanical properties of frozen ground are given in connection with building and road construction and with consideration of changes in thermal conditions of the active layer. Copy seen: DLC.

48252. SUMGIN, MIKHAIL IVANO-VICH, 1873–1942. Vechnafa merzlota kak indikator vekovykh kolebanif klimata. (In: Vsesofiznyl geograficheskif s'ezd. 1st, Leningrad, 1933. Trudy, 1934, vyp. 3, p. 22–23, graphs.) Text in Russian. Title tr.: Permafrost as an index of secular climatic trends.

"The temperature distribution in the upper strata of the earth and ground deformation associated with permafrost degradation are discussed. Numerous sinkholes and lakes in the area between the lower stretches of the Indigirka River and the Tunkin Depression appeared after permafrost degradation. Permafrost alters the conventional distribution of soil temperatures with depth; and permafrost temperatures, the depth of the min., and variations in these values can be considered indexes of the present state of permafrost, its degradation, and the secular climatic trend. Permafrost degradation observed in the Usa River basin (66° N. 60° E.) and near Lake Baykal indicate climatic warming in these areas." -SIPRE. Copy seen: DLC.

48253. SUMGIN, MIKHAIL IVANO-VICH, 1873–1942. Vechnafa merzlota na Kol'skom poluostrove. (*In:* Fersman, A. E. Za polfarnym krugom, 1932. p. 57–61, illus.) Text in Russian. *Title tr.:* Permafrost in Kola Peninsula.

Reports investigation by the Permafrost Expedition of the Academy of Sciences in 1932. Data were collected chiefly from excavations of industrial undertakings. Only traces of permafrost were found in a few spots. Kola Peninsula is the only region above the Arctic Circle where permafrost may be disregarded in industrial planning.

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SUMMERS, W. B., see Eiseman, B., and others. Prolonged hypothermia . . . pneumococcal peritonitis. 1956. No. 44749.

48254. SUMNER, LOWELL, 1907—. Your stake in Alaska's wildlife and wilderness. (Sierra Club bulletin, Dec. 1956. v. 41, no. 10, p. 54-71, 32 illus.) 17 refs.

In 1951-1953, the writer completed a preliminary biological survey of Alaska (except Aleutians) as part of the U.S. National Park Service Alaska Recreation Survey. Basic differences between Alaska and continental U.S. in available natural resources, related land use possibilities and revenues therefrom are pointed out. Revenues from Alaskan natural resources are discussed; the non-monetary values and means of measuring them, also value of the tourist industry are considered. Decline of many forms of wildlife and of forests is noted; fish, wildlife, and scenery are stressed as Alaska's greatest economic asset; and recommendations are made for conservation. Excellent photographs of mammals and birds are included.

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48255. SUNDBY, T. Sortering av skogplanter. (Norske skogplanteskoler. Årsskrift, 1951. p. 11–19.) Text in Norwegian. *Title tr.*: Sorting of nursery trees.

Size evaluation of young trees suitable for planting varies with nurseries. A rational basis for sorting such trees is offered. The size: age relationship differs in western and northern Norway.

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48256. SUNDE, ALV. Studies of winds off western Greenland. (Norway. Meteorologiske annaler, 1956. bd. 4, nr. 4, p. 37–54, 17 text maps, 4 graphs, table.)

Modification of air currents and pressure by the mountains of West Greenland and eastern Baffin were studied on the basis of synoptic observations and notes from logs of Norwegian fishing vessels (May-Oct. 1951 and 1952). Development of lee troughs in western Greenland is

discussed, and air pressure observations for six stations during eight occurrences in 1951 are tabulated. Depressions in southern Davis Strait, over Baffin and northern Davis Strait, and those moving along the west coast of Greenland are considered in turn. Depressions with tracks having a southerly component are infrequent compared with those having a northerly. Very intensive depressions seem more frequent in southern than in northern Davis Strait. The area studied is important to the fishing industries for depressions in the Strait are indicators of bad weather on the fishing banks.

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SUNDE, IVAR, see Jensen, A., and others. The quantitative determination of alginic acid. 1955. No. 45786.

SUNDERMAN, FREDERICK WIL-LIAM, 1898-, see Stevens, C. E., and others. The response of the pituitarythyroid system . . . 1956. No. 48203.

48257. SUNDIN, HENRIK. Kan vi inte spotta varann i ansiktet? (Norrbottens läns hembygdsförening. Årsbok 1956, p. 116–19.) Text in Swedish. *Title tr.:* Can we not spit in each other's faces?

Presents a theory that this Swedish expression, which means "can we not start calling each other 'du'?" (second person singular), originates in a Lappish bear hunt custom: wives, chewing alder bark, spat into the faces of their husbands to make red marks imitating the bear's blood. A detailed description of bear hunts is given, based on Johannes Scheffer (No. 25926). Copy seen: SPRI.

48258. SUNDT, H. Hvalkokeriet i arbeid, en populaer orientering. (Polarboken, 1956, p. 113-21, illus.) Text in Norwegian. *Title tr.:* The whale boiler in action, a popular account.

Operations on a modern whaler are described: cutting up the carcass, boiling down, processing of products, etc. The processing is mechanical, but the quality of the oil, medicinal preparations, and other products depends upon manual labor, skill and teamwork.

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48259. SUOMALAINEN, ESKO. Über das periodische Auftreten von Erebia ligea L., Lep., Satyridae, in Finnland. (Suomen hyönteistieteellinen aikakauskirja, 1937. v. 3, no. 2, p. 78–83, illus.) 11 refs. Text in German. Title tr.:

On periodic appearance of *Erebia ligea* L., Lep., Satyridae, in Finland.

Contains observations on the numerical fluctuation of this butterfly over a tenyear period (1926-36) in Porvoo parish of southern Finland; supplemented by data on its distribution in northern Finland: Kemi in northern Ostrobottnia, the Kuusamo region and Petsamo Lappmark.

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48260. SUOMALAINEN, HANNU OLLI TAPANI. Studien über unsere zu der Untergattung Raphirus Steph. gehörenden Quedius-Arten; Col., Staphylinidae; vorläufige Mitteilung. (Suomen hyönteistieteellinen aikakauskirja, 1942. v. 8, no. 1, p. 107-110.) 11 refs. Text in German. Title tr.: Studies of Finnish Quedius species belonging to the subgenus Raphirus Steph.; Col., Staphylinidae; preliminary report.

Contains a key to the species of the genus Quedius, including Q. fellmanni, a rare northern beetle occurring only in

Finnish and Russian Lapland.

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48261. SUOMI KUVINA. Porvoo, Suomi, Werner Söderström osakeyhtiö, 1934. 275 p. plates. Text in Finnish, Swedish, English, German, French, and Spanish. *Title tr.:* Finland in pictures.

Photographs of landscapes, economic and social activities, with brief descriptive text by V. A. Koskenniemi. Approx. 50 photos depict the far North.

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48262. SURKOV, S. S. Norvezhskil promysel tûlenel v Arktike i Severnol Atlantike. (Rybnoe khozîastvo, June 1956. god 32, no. 6, p. 60-62.) Text in Russian. *Title tr.:* Norwegian sealing industry in the Arctic and North Atlantic.

Contains information on the role of the industry in the country's economy; World War II losses; recent annual catches; tonage and personnel of the whaling fleet; areas of activity, species caught, methods, etc.

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**48263.** SUSHKINA, N. N. Narvaly. (Priroda, May 1956. god 45, no. 5, p. 112–13). Text in Russian. *Title tr.:* Narwhals.

Contains observations on a school of 30-50 narwhals (Monodon monoceros) met in Franz Josef Land waters, July 20, 1955.

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48264. SUSLOV, SERGEĬ PETRO-VICH. Izuchenie vechnoĭ merzloty kak geograficheskogo faktora. (*In*: Obruchev, S. V. Spravochnik puteshestvennika, t. 2, 1950, p. 200–224, illus.) Text in Russian. *Title tr.*: Study of perma-

frost as a geographical factor.

Contains instructions for investigation of permafrost as to its effects upon the landscape. Its relationship with the climate, and such physical characteristics as thickness and depth of the frozen layer, temperature, frostcracks, mounds and other forms of relief, should be observed. Genetic types and physical properties of ground ice, ground water above and below the frozen layer, naleds, effects of permafrost on soil, vegetation and fauna of the area should be studied. The geographic distribution of frost mounds, pingos, ground ice, ground water, naleds, thermokarst, etc., should be mapped to indicate physical and chemical properties of the soil, and the relation of vegetation to frost penetration. Cartographic symbols for use in surveying permafrost regions are appended.

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48265. SUTHERLAND, GERALD BONAR, 1919— . Changes in the blood clotting mechanism of cold-adapted rabits. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 182–83.)

Shaved rabbits kept for two months at  $4^{\circ}$  C. showed a 30-40 percent increase in whole blood and plasma clotting times, a 35 percent decrease in prothrombin time, an increase in platelet (14 percent) and erythrocyte (6 percent) counts, hematocrit (7 percent), total plasma protein (4 percent); a fall in albumin (13 percent) and a rise in  $\beta$ -globulin (37 percent) and fibrinogen (55 percent) were also observed. **Copy seen:** DLC.

48266. SUTHERLAND, GERALD BONAR, 1919—, and D. H. CAMPBELL. Cold-adapted animals, 1; changes in blood clotting and electrophoretic properties of rabbit plasma. (Society for Experimental Biology and Medicine. Proceedings, Jan. 1956. v. 91, no. 1, p. 64–67, illus. tables.) 8 refs.

Rabbits kept for two months at 4° C. "developed increases in platelet and erythrocyte count, hematocrit, plasma protein concentration, B-globulins and fibrinogen" and in clotting times. Serum albumin concentration and prothrombin time decreased. *Copy seen:* DLC.

48267. SUTHERLAND, GERALD BONAR, 1919—, and D. H. CAMPBELL. Immunochemical and blood chemistry studies of "cold-adapted" animals. Ladd Air Force Base, Alaska, Sept. 1956. 37 p. illus., tables. (U. S. Air Force. Arctic Aeromedical Laboratory. Project no. 7951.) 10 refs.

Account dealing with (1) investigations on the arctic squirrel; (2) similar studies with "cold-adapted" rabbits; and (3) a new method for detection and isolation of antibody. State of albumin, betaglobulin and fibrinogen; platelet and erythrocyte counts; hematocrit, clotting, time, prothrombin time and antibody, etc., were studied in animals exposed to cold for long periods. Copy seen: DNLM.

48268. SUTHERLAND-BROWN, M. C. Northwest highway system. (Canadian Army journal, July 1956. v. 10, no. 3,

p. 118-29, illus., text map.)

The historical development of the Canadian part of the Alaska Highway is described. The U.S. Army turned over to the Canadian Army responsibility for the operation and maintenance of the road from Dawson Creek, B. C., via Whitehorse in Yukon Territory to the Canada-Alaska Boundary (1221.4 miles) on April 1, 1946. These functions are carried out by a part of the Army known as the Northwest Highway System (NWHS); its organization is described. Traffic on the Highway has increased steadily since first opened to unrestricted civilian traffic in 1947. Maximum number of vehicles per day range from 1,000 at mile 48, Fort St. John, to 130 at mile 1,200. A map of the Highway is included together with several illustrations of bridges and construction activities.

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**48269.** SUTTON, ANN, and M. SUTTON. The adventures of Steller. (Natural history, Nov. 1956. v. 65, no. 9,

p. 485-91, 10 illus.)

Contains biographical notes on G. W. Steller and a sketch of Bering's expeditions, 1725-43, as "organized by Russia, led by a Dane, and described by a German, Georg Wilhelm Steller." The latter's achievements in describing and illustrating the fur seal, sea lion, sea otter, and the now extinct sea cow and spectacled cormorant, are recounted. He was the only naturalist to see the sea cow alive and to dissect it.

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48270. SUTTON, GEORGE MIKSCH, 1898—, and D. F. PARMELEE. Breeding of the snowy owl in southeastern Baffin Island. (Condor, July-Aug. 1956. v. 58, no. 4, p. 273–82, 3 illus.) 13 refs.

Contains observations on ten nestings near the Royal Canadian Air Force Base at the head of Frobisher Bay, in summer 1953, with data on breeding behavior and feeding. The hatching period for a clutch of nine eggs was about fifteen days. The owls fed exclusively on lemmings.

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48271. SUTTON, GEORGE MIKSCH, 1898-, and D. F. PARMELEE. On certain charadriiform birds of Baffin Island. (Wilson bulletin, Sept. 1956. v-68, no. 3, p. 210–23, 2 illus.) 18 refs.

Contains a discussion of the Frobisher Bay region as a nesting ground, and an annotated list of 20 species, observed in the summer 1953 in the vicinity of Royal Canadian Air Force Base (63°45' N. 68°33' W.). Notes are given on ecology, phenology, breeding habits and frequency.

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**48272. SUTTON, GEORGE MIKSCH, 1898**– , *and* **D. F. PARMELEE.** On the loons of Baffin Island. (Auk, Jan. 1956. v. 73, no. 1, p. 78–84, illus.) 10 refs.

Contains observations on three species of loons: the common (Gavia immer), black-throated (G. arctica), and redthroated (G. stellata). Descriptive notes, measurements and data on molt, ecology, habitat and local distribution for each species are supplied. Copy seen: DLC.

48273. SUTTON, GEORGE MIKSCH, 1898—, and D. F. PARMELEE. The rock ptarmigan in southern Baffin Island. (Wilson bulletin, Mar. 1956. v. 68, no. 1, p. 52-62, 3 illus.) 10 refs.

Contains results of observations on hatching and nesting habits of Lagopus mutus made in the summer of 1953, near the Royal Canadian Air Force Base (63°45′ N. 68°33′ W.) at the head of Frobisher Bay. Phenological notes and a discussion of 14 specimens of adult females and males are added.

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48274. SUTTON, GEORGE MIKSCH, 1898-, and D. F. PARMELEE. The rough-legged hawk in the American Arctic. (Arctic, 1956. v. 9, no. 3, p. 202-207, illus.) 16 refs.

Information is presented on an occurrence and geographical range of Buteo lagopus; its nests and nesting habits in the Frobisher Bay area of Baffin Island in 1953; the young; food (mostly lemmings), nesting success; relationship with the peregrine hawk, etc.

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SUTTON, MYRON, see Sutton, A., and M. Sutton. The adventures of Steller. 1956. No. 48269.

48275. SUVOROV, EVGENIĬ KON-STANTINOVICH. Promyslovye vodocmy SSSR; vvedenie v chastnuū ikhtiologiū. Leningrad, Izd-vo Leningradskogo universiteta, 1948. 238 p. illus., tables, maps. Text in Russian. *Title tr.:* Fishing waters of the U. S. S. R.; introduction to regional ichthyology.

An account of Soviet fishing areas, both sea and freshwater, their fishes and fisheries. The water bodies are discussed beginning with the southernmost. The following arctic waters and their aspects are described: the Barents and White Seas (p. 95-144), their geology, bathymetry, currents, bottom biomass and its distribution, plankton, fishing grounds, the Murmansk fishing area, trawling; White Sea, Pechora and Novaya Zemlya conditions. The arctic seas, comprising the Kara, Laptev, East-Siberian and Chukchi Seas, are treated (p. 145-82): their hydrographic conditions, chemistry, biology, ichthyo-fauna and fisheries. The Far Eastern seas (p. 192-235) include the Bering Sea and the Sea of Okhotsk: their geology, physical oceanography, fauna, fisheries and fishes are outlined. Concerning fishes, their morphology, growth, ecology, migrations, etc., are discussed. A useful bibliography is added to each chapter. Copy seen: DLC.

48276. SUVOROVA, NINA PET-ROVNA. Rod Lermontovia v nizhnem kembrii Sibiri i Srednet Azii; trilobity. (Akademiâ nauk SSSR. Doklady, Dec. 11, 1956. t. 111, no. 5, p. 1101–1104, 2 illus., table.) 15 refs. Text in Russian. Title tr: The genus Lermontovia from the lower Cambrian of Siberia and Central Asia; trilobites.

Contains historical notes and description of Lermontoviinae n. subfam., Lermontovia n. gen., and two new species including L. lenaica n. sp. from the Lena River basin.

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48277. SUVOROVA, NINA PET-ROVNA. Trilobity kembrija vostoka Sibirskoi platformy, vyp. 1; protolenidy. Moskva, Izd-vo Akad. nauk SSSR, 1956. 158 p. 47 illus., 15 plates, 57 tables, fold. table. (Akademiâ nauk SSSR. Paleontologicheskii institut. Trudy, t. 63.) 69 refs. Text in Russian. Title tr: Cambrian trilobites of the eastern Siberian platform, part 1; Protolenidae.

Contains notes on the history of the study of this family and data on the stratigraphy and geographic distribution of protolenids, their morphology and systematic position. A systematic list follows with descriptions of the family and 23 fossil species, in four genera, of which twelve are new. Tables of dimensions, keys to the species, critical notes, and data on geological age and geographic distribution are included. The region of the study covers the Yakut A. S. S. R.; the northwestern section, the Olenek basin (above the Arctic Circle) is the site of Lermontovia grandis n. sp., L. convexa n. sp. and five other trilobites. A discussion of the phylogenetic relations of Protolenidae is appended.

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48278. SVANE, SIVERT, 1923—. Echinococcsykdom hos mennesket. (Naturen, 1956, árg. 80, nr. 2, p. 104–112, 3 illus.) Text in Norwegian. *Title tr: Echinococcus* infestation in human beings.

This disease is not as rare in Norway as is commonly believed. The primary host is the dog; reindeer are often the secondary host, and sometimes man. Echinococcosis is most widely spread in northern Norway, especially among people who handle reindeer, in whom it is apt to occur in cyst form; it is also found in northernmost Finland and Sweden.

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48279. SVATKOV, N. M. Sledy smeshchenia granisy drevesno' rastitel'nosti na Oleneksko-Lenskom vodorazdele. (Botanicheskii zhurnal, Oct. 1956. t. 41, no. 10, p. 1488–90, text map.) 4 refs. Text in Russian. Title tr: Vestiges of the fluctuation of the woody vegetation limit on the Olenek-Lena watershed.

Describes some trunks of ancient larch found in the tundra, 250 km. from the arctic coast and about 125 km. from the nearest settlement (approx. 70°50′ N.) They are probably of local origin, as it seems unlikely they were brought to the tundra by natives, who don't use such timber for their household purposes. Trees of the same size are now found 200-250 km. to the south. In some phase of

post-glacial period, the northern limit of woody vegetation was north of the present one. **Copy seen:** DLC.

48280. SVEISTRUP, POUL PETER, 1892- . Kryoliten og staten. (Grønland, Feb. 1956, nr. 2, p. 41-49, illus.) Text in Danish. *Title tr.:* The cryolite and the state.

Contains a short history of the relationship between the Danish state and private mining companies at the cryolite mine at Ivigtut, West Greenland. The first concession for industrial use of the cryolite was given in 1853. The Greenland Trading Company was given monopoly of mining at Ivigtut that year, but mining concessions were given to private interests as from 1856; during 1865-1940, to Kryolith Mine og Handels Selskabet, and since 1940 to Kryolitselskabet Øresund A/S, which was formed as result of long cooperation between the old company, Øresunds chemiske Fabriker (which had purified and sold the cryolite), and the state. Copy seen: DLC.

48281. SVENDSEN, LARS. Hver overilet handling kan betyde tab af penge. (Atuagagdliutit: Grønlandsposten, Sept. 20, 1956. Ukiut 96-iat, nr. 19, p. 2, 6, 9-20.) Text in Danish and Eskimo. *Title tr.:* Every hasty action can mean loss of money.

Includes the text (p. 9-20) of the first agreement between Grønlandsk Arbejdersammenslutning (The Greenland Workers' Union), the provincial governor, and The Royal Greenland Trading Company negotiated in July 1956, and effective from Jan. 1 1957. It covers wages, hours and holidays for unskilled workers, sailors, trade assistants and clerks till Oct. 1, 1959, and provides for settlement of disputes; matters previously regulated unilaterally by the state.

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48282. SVENONIUS, FREDRIK VIL-HELM, 1852–1928. Lapplands kommunikationer. (Svenska turistföreningen, Stockholm. Årsskrift 1895, p. 135–58, 3 illus.) Text in Swedish. *Title tr.:* Communications in Lapland.

Size of the Lapp area, distances, relief, and culture are summarized. The then conditions of railways, roads, boats, canoes, stream crossings, and mountain tract accommodations are reviewed.

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48283. SVENONIUS, FREDRIK VIL-HELM, 1852–1928. Några svenska fjälltyper. (Svenska turistföreningen, Stockholm. Arsskrift, 1894, p. 1-14, 5 illus.) Text in Swedish. Title tr.: Some Swedish mountain types.

Five mountains in northern Sweden are described: Ramanpakte and Merkepakte near Arjeplog, Kaskaivo near Kvikkjokk, Akavare north of Sarek, and Eppartjåkko in the Sarek region, with special emphasis on relation between geology and topography. Metamorphic and sedimentary rocks, first fossil find in Norrbotten, influence of joint systems, nunataks, korsos, and differences between first and second cycles of erosion are called to attention.

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48284. SVENONIUS, FREDRIK VIL-HELM, 1852-1928. Nya olivinstensförekomster i Norrland. (Geologiska föreningen, Stockholm. Förhandlingar, 1884. bd. 7, häfte 4, no. 88, p. 201-210, 6 diagrs.) Refs in text. Text in Swedish. Title tr.: New finds of olivene stone in Norrland.

Two newly discovered olivene bedrock outcrops in the Kvikkjokk section of Swedish Lapland are discussed. Stratigraphically they are classified as belonging above the hyolithes zone in crystalline schists, of which they are believed to be an original part. Some of the interesting and unusual contained minerals are described. Copy seen: DGS.

SVENONIUS, FREDRIK VIL-48285. HELM, 1852-1928. Om lappkåtar samt Turistföreningens fjällhyddor. (Svenska turistföreningen, Stockholm. Arsskrift. 1892, p. 3-42, 11 illus., fold. map.) Refs. in text. Text in Swedish. Title tr.: On Lapp cottages and the Tourist Association's mountain huts.

Appearance, construction, and interior furnishings of Lapp homes are described and related to the locations and mode of life. Differences are believed to depend on early group origins. Appended is description of six Svenska Turistföreningen huts, with their location, potential uses, a route map, etc.

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48286. SVENONIUS, FREDRIK VIL-HELM, 1852-1928. Om några svenska (Geologiska föreningen, Stockjöklar. holm. Förhandlingar, 1878. häfte 1, no. 43, p. 18-27.) Re bd. 4, Refs in text. Text in Swedish. Title tr.: On some Swedish mountain glaciers.

Glaciers on Akavare and Sulitjelma

were traversed. Attention is called to angles of slope, variety of transported rock, inner moraines, dirt bands, ice color and crystal form, moulins, longitudinal and transverse crack systems. Attempt was made to measure forward movement. Altitude, snow limit, and lower limit of glaciers were compared with Folgefonna in Norway. Copy seen: DGS

48287. SVENONIUS, FREDRIK VIL-HELM, 1852-1928. Om oskiktade terrasser i Lappland. (Geologiska föreningen, Stockholm. Förhandlingar, 1887. bd. 9, häfte 1, no. 106, p. 13-14.) Title tr.: On unstratified in Swedish. terraces in Lapland.

Above the limit of birch growth, 250-300 ft. above Situojaur, a lake northnorthwest of Kvikkjokk, are morainic terraces of large and small stones and sand; they bear witness to a damming of the lake by ice during its recession. Similar terraces are found near Torneträsk and Lajdaur. Alternative possible means of terrace development are outlined. Copy seen: DGS.

48288. SVENONIUS, FREDRIK VIL-HELM, 1852-1928. Studier vid svenska jöklar. (Geologiska föreningen, Stock-holm. Förhandlingar, 1884. bd. 7, häfte 1, no. 85, p. 5-38, 3 plates.) Refs. in text. Text in Swedish. Title tr.: Investigations of Swedish glaciers.

Northern Sweden's glacier region, its distribution, characteristics, and relation to topography, elevation, and precipitation are compared to those in southcentral Europe. The Luotoh glacier is described: its snow and ice, moraines, dirt bands, crack systems, transport, removal of solid matter, and ice movement. Variations in glacial stream flow and deposits are noted and changes in volume of glaciers are considered.

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48289. SVENONIUS, FREDRIK VIL-HELM, 1852-1928. Undersökningar rörande Sveriges jöklar. (Svenska turistföreningen, Stockholm. Arsskrift, 1896. p. 304-306.) Text in Swedish. tr.: Investigations of Sweden's glaciers.

In connection with studies by the Commission Internationale des Glaciers, of the International Geological Congress in Zurich, 1894, investigations of Sweden's glaciers are needed. Reports on mapping, photography, precise measurements of various kinds, and landscape descriptions are requested, and methods of in-

vestigation outlined.

A sequel, pub. in the same journal 1897, p. 363-65, states requirements more specifically for Norrland: to map the present extent of all glaciers, and determine later changes by photography and mapping. Several score glaciers in Arjeplog, Sulitjelma, Kvikkjokk, Gällivare, Jukkasjärvi, and Enontekis regions are listed.

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SVENONIUS, FREDRIK VILHELM, 1852–1928, see also Geologiska föreningen. Mötet den 10 April 1885. 1885. No. 45069.

SVENONIUS, FREDRIK, VILHELM, 1852-1928, see also Wiklund, K. B. Några . . . lapska ortnam. 1895. No. 48951.

48290. SVENSKA SÄLLSKAPET FÖR ANTROPOLOGI OCH GEOGRAFI. Atlas över Sverige. Stockholm, Generalstabens litografiska anstalts förlag, 1953-, in progress. 21 pt. each 4 to 8 p. (13½ x 17 in.), maps (part col., various scales), text, diagrs., tables. Text in Swedish. Summaries in English. Title tr.: Atlas of Sweden.

An atlas on the physical geography, population, agriculture and economy of Sweden, edited by Magnus Lundquist (chief editor), Carl-Julius Anrick, Gerd Enequist, and Ivar Högbom. Cartography, reproduction, and printing are done by AB Kartografiska institutet, Stockholm. The atlas is planned to comprise some 150 p. of maps and 300 p. text. The 21 parts issued in 1953–55 deal with the following subjects for the entire country, including the far North: geology, meteorology, vegetation, population, agriculture.

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SVENSKA SÄLLSKAPET FÖR AN-TROPOLOGI OCH GEOGRAFI, see also Ångström, A. K. Vädret om hösten. 1964. No. 43470.

48291. SVENSKA TURISTFÖRENING-EN, Stockholm. Från Aktsek till Njuonjes; en femtonårings reseminne från 1871. (Its: Årsskrift, 1892, p. 59-77, plate.) Text in Swedish. Title tr.: From Aktsek to Njuonjes; a 15-year-old's account of a journey made in 1871.

A Swedish man and boy, accompanied by a Lapp, carrying scanty provisions and clothing, crossed an unfrequented section of Swedish Lapland (approx. 67° N. 18°20'-17°30' E.). Their long marches, travel conditions, accommodations, landscape, etc. are described.

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48292. SVENSKA TURISTFÖRENING-EN, Stockholm. Kebnekajse, en bildserie. (Its: Årsskrift, 1952, p. 257-64, 7 illus.) Text in Swedish. Title tr.: Kebnekaise, a series of pictures.

Summer views of the region around the highest peak in Sweden; the photographs were taken in clear weather from vantage points that present unusual vistas, one including both Kebnekaise and Sarek.

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48293. SVENSKA TURISTFÖRENING-EN, Stockholm. Kvikkjokks slåtterånger, en bildserie. (Its: Årsskrift, 1953, p. 169-76, 8 plates.) Text in Swedish. Title tr.: Kvikkjokk's meadows, a series of pictures.

In the lowland near the Lapland mountains, hay is cut with mower and scythes in clear weather, hung to dry on racks, and after a month or more is hauled to storage for winter fodder.

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48294. SVENSKA TURISTFÖRENING-EN, Stockholm. Ortlexikon för cyklister, bilister och andra turister. Andra upplagan. Stockholm, Svenska turistföreningens förlag, 1953. 439 p., fold. map. Text in Swedish. *Title tr.*: Gazetteer for cyclists, motorists, and other tourists. 2nd ed.

A lexicon of approx. 2000 Swedish geographical names, with full description of the places, including distances, transportation, accommodations, etc. where relevant. Statistics for 1950 are used. Reference map, 1:500,000, is attached. Lapland is fully covered.

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48295. SVENSKA TURISTFÖRENING-EN, Stockholm. På fjället i sol. (Its: Årsskrift, 1955, p. 245–52. 9 illus. on 8 plates.) Text in Swedish. Title tr.: On the mountains in the sun.

Photographs with identifying captions include pictures from the Lapland mountains of Björkfjället near Tärna, Pårsotjåkko glåcier, and Kebnekaise.

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48296. SVENSKA TURISTFÖRENING-EN, Stockholm. Söder om Kebnekajse, en bildserie. (Its: Årsskrift, 1950, p. 325-32, 8 plates.) Text in Swedish. Title tr.: South of Kebnekaise.

A journey on foot in the mountains of

northern Sweden is briefly described and illustrated. Copy seen: DGS.

48297. SVENSKA TURISTFÖRENING-EN, Stockholm. Stora Sjöfallet. (Its: Årsskrift, 1899, p. 397–401, 7 illus. on 4 plates.) Text in Swedish. Title tr.: Stora Sjöfallet.

Photographs and accompanying text portray the varied terrain and weather in the vicinity of the falls on the upper Lule River in northern Sweden.

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**48298. SVENSKA TURISTFÖRENING- EN,** *Stockholm.* Den 27 maj 1951. (*Its:* Årsskrift, 1952, p. 84–93, 11 illus.) Text in Swedish. *Title tr.:* The 27th of May, 1951.

Visual evidence is offered of the meaning of a particular time in spring over Sweden: photographs of various, widely separated localities taken on the same day. Three from Kiruna and the border country offer comparison of the day in Lapland with that in southern Sweden.

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**48299.** SVENSKA TURISTFÖRENING-EN, Stockholm. Turistförhållandena vid Ofotenbanen omkring riksgränsen. (*Its:* Årsskrift, 1900, p. 367-69.) Text in Swedish. *Title tr.:* Tourist conditions along the Ofoten railroad near the boundary.

Route and accommodations are indicated from Narvik, via Vassijaure and Tornehamn, Abiskojokk, Kebnekaise, and the Torne River to Luossavarra. Mileage, available transport, walking conditions, food, lodging, prices, and recommended equipment are included.

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48300. SVENSON, HENRY KNUTE, 1897- . The group of Eleocharis palustris in North America. (Rhodora, Mar. 1947. v. 49, no. 579, p. 61-67.)

A critical study of the group, with a key and discussion of seven species. E. smallii (Hudson Bay and Ungava region), E. kamtschatica (Alaska, Hudson Bay, Labrador) and E. halophila (from Hudson Bay to Virginia) are included.

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48301. SVENSSON, HARALD. Analyse von Gletscherbewegungen mit Hilfe der tachygraphischen Kurve. (Zeitschrift für Gletscherkunde und Glazialgeologie, 1956. Bd. 3, Heft 2. p. 249–53, diagrs.) Text in German. *Title tr.:* Analysis of glacier

movement by means of the tachygraphic curve.

Contains graphic representation of the surface velocity conditions of a glacier by a proposed "tachygraphic" curve. Percent of total surface area is plotted against the corresponding velocity expressed in percent of maximum velocity. The curve thus obtained determines objectively the mean velocity of any given surface. This method is preferable to the construction of profiles in which velocity conditions are examined along given lines. A sample analysis is given for the Hintereis Glacier.

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48302. SVENSSON, HARALD. Method for exact characterizing of denudation surfaces, especially peneplains, as to the position in space. Lund, Sweden, 1956. 5 p. text map. (Lund. Universitet. Geografiska Institution. Lund studies in geography, ser. A, physical geography, no. 8.) 3 refs.

To illustrate this method, measurements were made on Vaerø, one of the Lofoten Islands, northern Norway (68° N. 14° E.). The slightly-waved peak surfaces have been considered remnants of an older erosion surface. The coordinates of eight height-determined points on the topographic map sheets of Röst and Lofotenodden were measured. Calculation was made as example only, points not sufficiently numerous for conclusions to be drawn. Nomogram shows position of computed plane on Vaerø.

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48303. SVERDRUP, HARALD ULRIK, 1888–1957. Arctic sea ice. [Washington, D. C.] 1956. 2 p.l., 19 p. diagr., table. (In: U. S. Office of Naval Operations. The dynamic North, v. 1, no. 6.) 7 refs.

Contains a glossary of sea ice terms as defined by the World Meteorological Organization, and a discussion of the physical processes and properties relating to ice formed by the freezing of sea water. The transformations and seasonal changes of sea ice are discussed.

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48304. SVERDRUP, HARALD ULRIK, 1888–1957. "Maud"-ekspeditionens videnskabelige arbeide 1922–1925. (Naturen, June 1926. årg. 50, nr. 6, p. 161–80, 4 diagrs., 2 text maps.) Text in Norwegian. *Title tr.:* The *Maud* expedition's scientific work, 1922–1925.

Summary account of the route from Bering Strait to Norwegian waters and of the observations carried out; astronomy, magnetism, atmospheric electricity, meteorology, soundings and oceanography. During most of the voyage the vessel was over the Siberian continental shelf. Copy seen: DLC.

48305. SVERDRUP, HARALD ULRIK, 1888-1957. Oceanography of the Arctic. [Washington, D. C.] 1956. vi, 32 p. table, 4 text maps. (In: U. S. Office of Naval Operations. The dynamic North,

v. 1, no. 5.) 19 refs.

Contains a general review of the oceanography of the North Polar Sea and adjacent seas; the Labrador Sea, Baffin Bay with Davis Strait, Kane Basin and Robeson Channel, Hudson Bay and Strait, the Beaufort, Chukchi, Siberian, Laptev, Kara, Barents, and Norwegian Seas. Proposed subdivisions of the arctic waters are mapped and discussed. Conditions described in general include limits, bathymetric features, salinity, temperature, density, currents, oxygen content, bottom sediments, and ice conditions. Copy seen: DLC.

48306. SVERDRUP, HARALD ULRIK, 1888-1957. Übersicht über das Klima des Polarmeeres und des Kanadischen Archipels. (Handbuch der Klimatologie, 1935. Bd. 2, Teil K, p. 3-30, diagr., tables, text maps.) 12 refs. Text in Title tr.: Survey of the German. climate of the polar sea and the Canadian

archipelago.

Contains general descriptions and tabulated data of temperature, pressure, wind, humidity, cloudiness, fog, precipitation and seasonal trends interpolated from observations made by the Fram Expedition 1893-96 and the Maud Expedition 1922-24 in the Eurasian Arctic and from one-year series obtained in the Canadian Archipelago on expeditions during 1819-An index of the stations, their location, years of observation, and observed parameters is included.

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48307. SVÍATLOVSKIĬ, A. E. Zemletríaseniía i osobennosti tektonicheskogo stroenifa Kurilo-Kamchatskol oblasti. (Akademiía nauk SSSR. Sovet po seľsmologii. Bûlleten', 1956. no. 2, Sbornik statel po fsunami, p. 31-34, diagrs.) Text in Russian. Title tr.: Earthquakes and specific tectonic structure of the Kuril-Kamchatka region.

Differentiated tectonic movements in the eastern part of Kuril-Kamchatka geosynclinal region, submerged in the depths of Pacific Ocean create strong earthquakes (9-10 points) and the ensuing "tsunamis" (seismic sea waves). Studies of the character and direction of the propagated phenomena are discussed in relation to the geological and oceanographic conditions of the region. scheme is presented of the seismo-tectonic structural system, developed from an analysis of recorded data. The character of the present tectonic movements may be studied from a similar scheme developed from data of the time and geometric location of the point of repeated earthquakes. Copy seen: DLC.

48308. SVIDERSKIĬ, PAVEL ALEK-SANDROVICH. Ustroistvo i ėkspluatatsifa rybopromyslovykh portov i baz, chast' I. Moskva, Pishchepromizdat, 1955. 371 p. tables, graphs, diagrs., maps. Text in Russian. Title tr.: Construction and operation of ports and bases for the fishing industry, part I.

Contains discussion of technical and economic problems of fishery installations, including those of the White Sea and Far They involve mainly improvements in fleet operations: discharge of catch, supplies, repairs, etc; and quality of product: better storage, preservation, selection, etc.; also in reduction of operating cost by mechanization of loading and transport facilities. Harbor construction and port installations are discussed with consideration of favorable geographic, geological and climatic conditions (direction and force of predominant wind, tide currents and waves) as exemplified in existing ports. The wave theory is outlined; the destructive force of waves on breakwater, piers and other shore construction is calculated. Technical and economic problems in port operation: disposition of moles, piers, arrangement of fishing boats, tugs, barges, loading facilities, etc., are analyzed, and the productivity of the industry is illustrated by tabulated data upon different ports. In appendix 5, characteristics of various types of the fishing ships and tugs are presented in tabular form. Part II has not been seen as yet. Copy seen: DLC.

48309. SVIHLA, ARTHUR. The relation of coloration in mammals to low temperature. (Journal of mammalogy, Aug. 1956. v. 37, no. 3, p. 378-81, tables.) Account of observations by three different methods, of white rats kept in warm and cold (5±1° C.) environment,

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and the same rats, dyed black, under identical experimental conditions. As far as heat conservation at low temperatures is concerned, no difference was observed between white and black-colored animals. Study was undertaken to test concept of heat conservation attributed to mammals with seasonal change in coloration: snowshoe hare, collared lemming, weasels, arctic fox.

Copy seen: DI.

48310. SWALLEN, JASON RICHARD, 1903 - The Alaskan species of *Puccinellia*. (Washington Academy of Sciences. Journal, Jan. 15, 1944. v. 34, no. 1, p. 16–23.)

Contains descriptions of 13, five new, collected chiefly by E. Hulten on his trips to Alaska, Yukon and Aleutian Islands; preceded by a discussion of this

genus of grasses, and a key.

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48311. SWALLEN, JASON RICHARD, 1903- . The grass genus Schizachne. (Washington Academy of Sciences. Journal, Apr. 19, 1928. v. 18, no. 8, p. 203–206, illus.)

Contains a discussion of this genus and synonymy, description and data on distribution of S. purpurascens, occurring in Kenai Peninsula, Alaska, and in Kamchatka Peninsula, eastern Siberia.

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48312. SWAN, HENRY, 1913— . The circulation during rewarming. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 161–64, illus.)

A description and discussion of circulation during, and three hours after, rewarming in dogs, following mild (30° C.) hypothermia. A state of circulatory insufficiency, lasting for at least three hours after cooling is outlined.

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48313. SWAN, HENRY, 1913 - Myocardial balance of potassium. (*In:* National Research Council. Division of Medical Science. The physiology of induced hypothermia . . . symposium, Oct. 1955, *pub.* 1956. p. 42–43, illustable.)

In dogs cooled to 30° C. there was little loss of potassium in the perfused heart and the K-balance remained positive throughout the experiment. A similar condition existed for phosphorus.

Copy seen: DLC.

SWAN, HENRY, 1913—, see also Blair, E., and others. Clinical hypothermia; a study . . . technics. 1956. No. 44046.

SWAN, HENRY, 1913-, see also Blair, E., and others. Posthypothermic circulatory failure, 1; physiologic observations . . . 1956. No. 44047.

SWAN, HENRY, 1913-, see also Marshall, S. B., and others. Temporary circulatory occlusion . . . brain . . . hypothermic dog. 1956. No. 46639.

48314. SWANBERG, P. O. Flyttfågler i Lapplandsfjäll. (Svenska turistföreningen, Stockholm. Årsskrift, 1953, p. 151–68, 8 illus., text map.) Text in Swedish. *Title tr.:* Migratory birds in the Lapland mountains.

Nearly all birds which nest in the mountains of Lapland are long-distance migrants. Travel routes of several species are indicated (map). Midsummer observations were made of birds which rested only from about eight p. m. till shortly after midnight; they were active nearly 20 hrs./day, and provided the young with much more food than could be gathered in a shorter day farther south.

Copy seen: DGS.

48315. SWANSON, BERNARD K. Arctic oceanography. [Washington, D.C., U. S. Hydrographic Office] Apr. 1955. 2 p. Typescript.

Deals briefly with U. S. Hydrographic Office - Woods Hole Oceanographic Institution investigations from the icebreakers Atka and Edisto. During Jan.-Mar. 1954, the two ships occupied 109 stations; in winter 1955 the Edisto occupied 49. Stations were located across the Labrador, West Greenland, East Greenland, Icelandic, Irminger, and Norwegian Currents, the Greenland-Iceland and Iceland-Faeroe Ridges, and along ice boundaries. The scientific program is noted.

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48316. SWANSON, EARL H. Nootka and the California gray whale. (Pacific Northwest quarterly, Apr. 1956. v. 47, no. 2, p. 52–56, 2 tables.) 20 refs.

Discusses possible relationship between movements of this whale along the Pacific Coast (to southern British Columbia) and in Bering Sea, and whaling practices of the Nootka Indians of Vancouver Island in the 19th century. Southwest Alaska Eskimo influences were strong in southern British Columbia at an earlier period; the Nootka still possess traits considered to

be of Eskimo derivation. Possible cultural relationships between the Nootka and Aleut-Kodiak region are also discussed. "The importance of the California gray whale is that it appears to have been as much a part of the whaling complex in the North Pacific as was the harpoon. This would tie in Nootka whaling with the Eskimo, Koryak, and Chukchee rather than with the Aleut-Kodiak region." The whale's absence from coasts of northern B. C. - Southeast Alaska may account for absence of whaling practices among the Tlingit and Haida Indians.

Copy seen: DGS.

48317. SWANSON, HEIDI E. Effect of temperature on interrelations between thyroxin and adrenaline. (Federation proceedings, Mar. 1956. v. 15, no. 1,

pt. 1, p. 183-84.)

Account of experiments with rats kept at various temperatures, including 5° and 10° C. The calorigenic action of adrenaline was found to be related to the thyroxin level; the increased metabolism due to cold may be partly chemical, partly muscular; increase of the former may spare the muscles, and is apparently due to thyroxin-adrenaline relationship.

Copy seen: DLC.

SWANTON, JOHN REED, 1873–1958, see Haeberlin, H. K. Notes . . . verbal complex in Haida. 1923. No. 45366.

SWANTON, JOHN REED, 1873-1958, see also Sapir, E. The phonetics of Haida. 1923. No. 47794.

SWARTZ, JOEL HOWARD, 1893—, see U. S. Geological Survey. Progress. Aleutian investigations, 1946–1951 . . . 1952. No. 48601.

48318. SWEDEN. LAWS, REGULA-TIONS. Lag om de svenska lapparnas rått till renbete i Sverige samt lag om renmärken 18 juli 1928. Uppsala, Almqvist & Wiksell, 1933. 117 p. Text in Swedish and Lappish. *Title tr:* Law on the Swedish Lapps' right to reindeer pasture in Sweden; with law on reindeer marking, 18 July, 1928.

Deals with the legal status of Swedish Lapps, including those settled throughout Norrbotten, and with their territorial and seasonal rights. Delimitation and supervision of land assigned for reindeer husbandry is delegated to towns where migrant Lapps have permanent civil connections. Requirements of towns as to town meetings and representation of

migratory Lapps are stated. Regulations are given on taxation, migration, yarding, herding, damage by or to reindeer, numbers allowed, straying, fines. Lapp rights to dwelling place, goat keeping, forest cutting, hunting and fishing are stated; also restrictions on other citizens beyond recognized Lapp territory boundaries. Identification of deer by ear marks, and regulations of mark rights, etc. are included. *Copy seen:* CaMAI.

## 48319. SWEDEN. METEOROLOGISKA OCH HYDROLOGISKA INSTITUTET.

Description des stations météorologiques Suédoises pouvant figurer aux météoradiogrammes internationaux publiée conformément à la résolution XLI de la conférence des directeurs à Utrecht, 1923. Stockholm, 1927. 19 p. maps. (Its: Publication no. 26). Text in French. Title tr: Description of Swedish meteorological stations.

A brief description is given of each of 19 stations including Abisko, Gällivare and Haparanda. Geographic coordinates, elevation, and local environment are indicated. The equipment or method used for obtaining each of the meteorological elements is given. A small topographic map of each station and environs is included. Copy seen: DLC.

48320. SWEET, WILLIAM HERBERT, 1910– . Cerebral studies during local and general hypothermia. (*In:* Conference on Cold Injury. 4th, Nov. 7–9, 1955, *Princeton, N. J.*. Transactions, pub. 1956, p. 329–39.) 14 refs.

Information is presented on cerebral O<sub>2</sub>-consumption of hypothermic dogs, the EEG, brain temperature and anoxia. Also, cardiac behavior and complication during hypothermia in patients, etc.

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48321. SWEETING, MARJORIE, and G. GROOM. Notes on the glacier fluctuations in Bünsow Land, central Vestspitsbergen. (Journal of glaciology, Mar. 1956. v. 2, no. 19, p. 640–41, 2 text maps (p. 633).) 7 refs.

From the 1953 Cambridge Spitsbergen Physiological Expedition, at the northern end of Billefjorden (78°30' N. 16° E.): Thin ice caps nourishing short valley glaciers occur on many of the broad summits. "Cascade" or "slab" glaciers on cliffs, valley walls, or gullies are a distinctive feature. All glaciers observed showed signs of marked recession; map (p. 633) indicates changes since W. B.

Harland's of 1949 (Arctic Bibliography, No. 22430). As result of increased ablation, existing ice caps are thinning so rapidly that they fail to replenish their dependent glaciers. Many "cascade" and corrie glaciers have become dead ice.

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SWEETMAN, WILLIAM J., see Brundage, A. L., and W. J. Sweetman. Feeding value . . . production . . . bromegrass. 1956. No. 44171.

48322. SWENSON, E. G. Winter concreting in Scandinavia. (Engineering and contract record, Oct. 1956. v. 69, no. 10, p. 114+.)

Contains a general review of a symposium held in Copenhagen in Feb. 1956 for the purpose of coordinating and assessing the theoretical and practical developments in cold-weather concreting. Subjects dealt with included weather and climate in relation to winter operations, the influence of temperature on the hardening of concrete, the frost resistance of concrete at early ages, choice of materials, heating, insulation, and procedure and equipment on the job. Field research and practice are most advanced in Canada; laboratory research in Europe.

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SWENSON, G. W., Jr., see Little, C. G., and others. Radio wave propagation . . . 1956. No. 46397.

SWETNICK, MARTIN JAY, 1923, see Neuburg, H. A. C., and others. Highaltitude cosmic ray . . . geomagnetic pole. 1955. No. 46991.

48323. SWITHINBANK, CHARLES WINTHROP MOLESWORTH, 1926—. The origin of dirt cones on glaciers. (Journal of glaciology, Oct. 1950. v. 1, no. 8, p. 461–65, diagr.) 11 refs.

Discussion primarily of characteristics and probable development of dirt cones on Vatnajökull, Iceland, but brief comparisons are made with similar features on Søbre, Jan Mayen and on Malaspina, Spencer, and Mendenhall glaciers in southern Alaska. Under given conditions of ablation, the nature of the debris covering is the deciding factor in formation of the cones, in particular its radiation absorption coefficient, conductivity, and thickness. All dirt cones result from differential ablation, although the nature of the debris and of the ablation varies greatly in different locations.

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48324. SYME, RONALD. Henry Hudson. New York, Morrow, 1955. 190 p. illus.

Popular book for children, briefly describing Hudson's boyhood, his voyages in the Hopewell in 1607 to northern Greenland Sea, east coast of Greenland and Svalbard, and in 1608 to Novaya Zemlya; in the Half Moon in 1609 along the coast of North America and into Hudson River; final voyage in the Discovery in 1610-11 to Hudson and James Bays. Reviewed by Clifford Wilson, Beaver, Spring 1956, Outfit 286, p. 58.

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48325. SYSOEV, VSEVOLOD PETROVICH. V Dal'nevostochnol talge; zapiski okhotnika. Moskva, Gos. izd-vo geogr. lit-ry, 1955. 192 p. illus., maps. Text in Russian. Title tr.: In the Far East taiga; a hunter's notes. Third edition considerably revised and enlarged, of a work previously pub. (1949, 1952) as: Okhota v Khabarovskom krae (Hunting in Khabarovsk Province).

Deals with commercial game animals of northeast Asia from Chukotka southward (to 42° N.), and with methods of hunting and trapping them, from 20 years' experience. Fur animals, marine mammals and birds in Chukotka, the Anadyr' basin, Kamchatka and adjacent waters are described, among them; sable, otter, ermine, bear, wolverine, fox, arctic fox, squirrel, muskrat, elk, wild reindeer; walrus, seal, bearded seal, sea lion, sea otter, geese, swans, ducks, etc. Wildlife conservation and acclimatization of valuable new species in hunting areas is discussed (p. 168-77). Technical aspects of hunting are treated in appendix (p. 178-90): weapons, traps, equipment, means of transportation, dwellings, rest huts, preservation of catch, dogs, etc., also organization of hunters.

Copy seen: DLC.

SZABÓ, MIHÁLY, see Zsótér, T., and M. Szabó. Érreakciók potenciált narkosis . . . 1956. No. 49080.

SZABÓ, MIHÁLY, see also Zsótér, T., and M. Szabó. Vasoreaktionen . . . Hypothermie. 1956. No. 49081.

48326. SZAFRAN, LESŁAW, and others. Wpływ przewiekłej narkozy luminalowej na przemiane węglowodanów u oziębianych zwierząt. (Patologia polska, 1956. rok 7, no. 3, 231-39, illus., tables.) 6 refs. Text in Polish. Summary in Eng-

lish. Other authors: R. Rembiesa, J. W. Guzek and H. Żygulska-Machowa. Title tr.: Influence of prolonged luminal narcosis on carbohydrate metabolism in chilled animals.

Account of experiments on rabbits given luminal sodium orally for 10-15 days and subsequently exposed to low temperatures. Blood sugar, glycogen content of liver and other tissues, oxalic, citric and lactic acid levels of the blood, and the histology of the liver were examined.

\*\*Copy seen: DNLM.\*\*

48327. TABAKOV, N. D. Issledovanie okisi ugleroda v gazakh vulkana Shiveluch v 1946–1947 gg. s pomoshch'íŭ termoindikatora. (Akademiíā nauk SSSR. Kamchatskafa vulkanologicheskafa stantsifa. Bfulleten', 1953. no. 18, p. 41–46, illus., graph., tables.) Text in Russian. Title tr.: Investigation of carbon monoxide in gases of Shiveluch Volcano in 1946–47 using a thermo-indicator.

Tabular data of the carbon monoxide content of the fumarole gases are given, from analysis made partly in a field laboratory set up on the slope of the volcano. The method is based on measurement of the amount of heat produced by oxidation of the carbon monoxide.

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48328. TABAKOV, N. D. Nablūdenifa nekotorykh momentov izverzhenifa vulkana Shiveluch v 1946–1947 gg. (Akademifa nauk SSSR. Kamehatskafa vulkanologicheskafa stanfsifa. Bfülleten', 1953. no. 18, p. 25–30, illus.) Text in Russian. Title tr.: Observation of some moments of the eruption of Shiveluch Volcano in 1946–1947.

Describes eruption of clouds of vapor and ash, stone avalanches, etc., from observations of the lateral cone Suyelich during trips to the volcano in Sept.—Oct. 1946, Jan. and July—Sept. 1947.

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TABAKOV, N. D., see also Meniatiov, A. A., and others. Izverzhenie Shivelucha letom 1946 g. 1949. No. 46707.

TABATA, S., see Canada. Joint Committee on Oceanography. Annual reports . . . 1955–56, 1956. No. 44266.

48329. TABATA, TADASHI. A measurement of visco-elastic constants of sea ice. (Teion-kagaku, Low temperature science, Sapporo, 1955, ser. A, no. 14, p. 25–31, illus., table, graphs.) 3 refs. Text in Japanese. Summary in English.

Data on bending tests made on sea ice on the coast of Hokkaido (Japan) in Feb. 1955 are described and tabulated. An ice bar was subjected to static load, its strain measured with a dial gage, and the elastic limit determined from the strain-time curve. Elastic limit is usually dependent upon the temperature, salinity and other conditions, however, these factors were not clearly ascertained.

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TABATA, TADASHI, see also Fukutomi, T., and others. Study of sea ice, 21 . . . Okhotsk . . . 1954. No. 45002.

TABOR, DAVID, see Bowden, F. P., and D. Tabor. Friction . . . solids. 1950. No. 44108.

48330. TABUTEAU, FRANÇOIS. Trail survey between Thule Takeoff and Camp Alpha. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, pub. 1954. p. 449-57, graph,

2 fold. diagrs.)

The Anchor Field Party was organized late in the season of 1953 by the Transportation Arctic Group to survey and mark a safe trail for heavy equipment between Thule Takeoff and Camp Alpha northwest Greenland. The region is contained in the quadrangle bounded by the parallels of latitude 76°20' and 76°50' N. and longitude 65°20' and 68°30' W. Five astronomical fixes were established. All bearings and directions were observed with the Wild T-2 theodolite. All crevasses observed were entered on the base map. None was wider than 5 ft. and all were bridged by 6-8 ft. of frozen snow. A base map of the trail is included and a profile of the best route was drawn. Copy seen: CaMAI.

TACCANI, C., see Petronio, R., and others. Saggi di rapida degradazione termica dell' organismo animale. 1956. No. 47323.

4831. TADDEI, CARLO, and others. Studio dei fenomeni che accompagnano la ipotermia dell'encefalo ottenuta con il raffreddamento extracorporeo del sangue del distretto cefalico in animali normali ed in animali neuroplegizzati; studio sperimentale per la prevenzione del danno anossico cerebrale conseguente alla interruzione del grande circolo. (Minerva chirurgica, 1956. anno 11, no. 12, p. 547-52, illus., tables.) 17 refs. Text in Italian. Other authors: P. Mosetti, G. B. Gemma, and G. Muzzulini. Title tr.: Study in phenomena of encephalic hypo-

thermia, obtained through extracorporeal cooling of blood from the head region in normal and neuroplegic animals; experimental study on prevention of anoxic cerebral damage following the interrup-

tion of the great circle.

Above study showed that survival is impossible if head temperature falls to 10-12° C. The appearance of apnea, the nature of the adrenergic crisis, myocardial excitation; effect of tranquilizers, arterial pressure, etc., are also discussed.

\*\*Copy seen: DNLM.\*\*

48332. TÄUBERT, HEINRICH. Die Beziehungen von "Petermanns geographische Mitteilungen" zur Geographie Russlands und der Sowjetunion. (Petermanns geographische Mitteilungen, 1956. Jahrg. 100, Heft 2, p. 179–83.) Text in German. Title tr.: Relations of Petermanns geographische Mitteilungen with the geography of Russia and of the Soviet Union.

Throughout the hundred years' publication of the Mitteilungen (1855-1956), the editors have always shown a lively interest in the geography of Russia, including the northern and arctic areas, and in the explorations of Russian geographers, as evidenced in publication of 1266 articles relating to Russia, 415 of them extensive papers. The editors have always been eager to maintain friendly relations with Russian scientists, who on their part have often contributed to the The interest of its founder, August Petermann, in Russian arctic explorations and in the results of the Great Northern Expeditions is noted (p. 181). Copy seen: DLC.

4833. TÄUBERT, HEINRICH. Zum Tode von V. A. Obručev. (Petermanns geographische Mitteilungen, 1956. Jahrg. 100, Quartalsheft 3, p. 254-55, text map.) Text in German. *Title tr.*: The death of V. A. Obruchev.

Obituary of this Soviet geographer and geologist (1863–1956), noting his explorations in far eastern U. S. S. R., Mongolia, and China between 1886 and 1914 (cf. map); his writings, academic career, etc.

\*Copy seen: DGS.

TAIT, J. N., see Great Britain. Hydrographic Dept. Supplement no. 5 . . . White Sea pilot . . . 1956. No. 45263.

4834. TAKEHARA, ICHIRO. Glycolytic behavior of rabbit blood at subzero temperature. (Teion-kagaku, Low tem-

perature science, Sapporo, 1956. v. 14, ser. B, p. 37-46, illus., tables.) 9 refs. Text in Japanese. Summary in English.

Comparative study of blood stores in ACD preservative at temperatures of 5° C. and -5° C. (supercooled). Values of hemolysis, lactate formation, ATP, pyruvate formation, etc., were evaluated after three weeks' storage. Glycolytic behavior of such blood after return to 37° C. and following different periods of storage at body temperature, was also studied. 

\*\*Copy seen: DLC.\*\*

48335. TAKHISTOV, B. A. O diktiokauleze severnogo olenía na Kol'skom poluostrove. (*In*: Vsesofuznafa akademifa sel'skokhozfalstvennykh nauk. Raboty po gel'mintologii, 1937. p. 713–16, tables.) Text in Russian. *Title tr.:* The dictyocaulosis of reindeer on Kola Peninsula.

Account of investigation of lungs of 114 domestic animals. Over 50 specimens of the parasitic nematode *Dictyocaulus hadweni* (Chapin 1925) were examined for morphology and morphometry of males and females, degree of infection, probable pathological effect, suggested prophylaxis, etc. *Copy seen:* DLC.

48336. TAMBS-LYCHE, HANS. Norges matnyttige fisk. Forelesninger ved "Høyere fiskeriundervisning," prøvekursene 1952 og 1953. Bergen, J. Griegs boktr., 1955. 130 p. tables, map (Norway. Fiskeridirektoratet. Skrifter, serie: Fiskeri, v. 3, no. 4.) Text in Norwegian. Title tr.: Norway's food fish; lectures in "Higher fisheries courses" 1952 and 1953.

Following introductory sections on the economic value of fish to Norway, and on fisheries research, the more important fishes are dealt with. Of those caught in the Arctic, several species of cod, the herring, halibut and flounder as well as salmonoid fishes are included. Shellfish, lobsters and crabs are treated separately. Data on catches and their origin; races, including arctic races; fishing areas; biology and ecology of the geographic races; age composition; etc., are presented.

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48337. TAMM, OLOF FILIP SEBAS-TIAN, 1891—. Northern coniferous forest soils; a popular survey of the phenomena which determine the production character of the forest soils of north Sweden. Oxford, The Scrivener Press, 1950. xi, 253 p. 12 illus., 2 diagrs., 7 text maps, 19 tables. Approx. 100

refs. Translated from the Swedish by Mark L. Anderson.

Bedrock, climate, altitude, exposure, and terrain features of northern Sweden are outlined. Growth conditions of the forest are described, with discussion of the relationships of forest associations to local conditions. The associations are considered as productivity classes and treatment types. Soil science in forestry is contrasted with that in agriculture. Specific forest associations are related to variations in podsolization. Forest improvement possibilities in Sweden are discussed with reference to practices in Finland; and conditions in Scandinavia and the Kola Peninsula are compared with those of Siberia where productive forest is often found above permafrost. Reviewed by Tryggve Troedsson in: Geologiska föreningen, Stockholm, Förhandlingar, 1950, bd. 72, häfte 4, no. 463, p. 476 (copy in DGS). Copy seen: DA.

48338. TANCHE, M. Chlorpromazine et barbituriques dans la lutte contre le froid. (Société de Biologie, Paris. Comptes rendus, 1955. t. 149, no. 15-18, p. 1561-64, illus., table.) 7 refs. Text in French. *Title tr.:* Chlorpromazine and barbiturates in the fight against cold.

Account of observations on dogs given chlorpromazine and/or phenobarbitol. Oxygen consumption and rectal temperature were studied on such animals exposed to an environment of  $-12^{\circ}$  C. and the effect the barbiturate on the action of chlorpromazine evaluated.

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48339. TANCHE, M., and J. KLEP-PING. Importance de l'anesthésie dans le déterminisme et l'évolution de l'hypothermie provoquée. (Société de Biologie, Paris. Comptes rendus, 1955. t. 149, no. 15–18, p. 1564–67.) 5 refs. Text in French. Title tr.: Importance of anesthesia in the bringing about and evolution of induced hypothermia.

Contains further observations (to No. 48338) on the effects of pentobarbitol on dogs made hypothermic with chlorpromazine. Rate of cooling, vasodilatation of skin vessels, ventricular fibrillation, clonic and other movements, etc., are described and discussed.

described and discussed.

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TANCHE, M., see also Benoit, O., and others. Augmentation . . . de la réponse électrocorticale . . . en hypothermie. 1956. No. 43963.

TANCHE, M., see also Cier, J. F., and others. La calcémie . . . 1956. No. 44374.

TANCHE, M., see also Cier, J. F., and others. De quelques facteurs . . . dans l'hypothermie. 1956. No. 44375.

48340. TANNER, VÄINÖ, 1881–1948. Finnländische Forschungen in Labrador. (Naturforschende Gesellschaft, Schaffhausen. Mitteilungen, 1941. Bd. 17, p. 16–30, graphs.) 11 refs. Text in German. *Title tr.:* Finnish research in Labrador.

Describes work of the Finland Labrador Expedition in summer 1937 and the Tanner Labrador Expedition in summer 1939. Research was carried out in bedrock geology (primarily Precambrian), Quaternary geology, epeirogeny, physiography, climate, hydrography, vegetation, ethnology. Earth movements and strandlines of late- and post-glacial periods in Fennoscandia and Labrador are compared, and development of the landscape is traced. Author's ethnological research is briefly described. Copy seen: DGS.

TAPPAN, HELEN, see Loeblich, A. R., and H. Tappan. Adercotryma, a new recent foram . . . 1952. No. 46419.

48341. TARANTINO, C., and others. Derivazione extrasurrenalica di ormoni corticoidi, 3; su l'eosinopenia da ACTH e da freddo in animali surrenectomizzati. (Folia endocrinologica, 1956. v. 9, no. 2, p. 247-55, tables.) 41 refs. Text in Italian. Summary in English. Other authors: F. Cassano and L. Ciampalini. Title tr.: Extraadrenal derivation of corticoid hormones, 3; eosinopenia from ACTH and from cold in adrenalectomized animals.

Female pregnant rats treated with ACTH or exposed to cold, showed marked variation in eosinophils; the same was observed in adrenalectomized, ovariectomized animals or such with ovarian grafts. Profound eosinopenia was exhibited only during second half of pregnancy or in animals with ovarial implants showing luteinization. Pt. 1-2 of this study do not involve cold exposure.

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48342. TARASOV, A. Podo l'dami; podvodnye lodki. (Voennye znania, July 1956. god 31, no. 7, p. 26–27, illus.) Text in Russian. *Title tr.:* Under ice; submarines.

Construction and various peacetime

uses and possibilities of the atomicpowered submarine are described. The vessel's construction details should be varied according to the uses planned. For scientific under-water, or under-ice exploration, the submarine should have a pair of sleds with shock absorbers attached to the upper deck; ice-melting equipment (acetylene torches); telescopic towers for exit purposes; powerful searchlights with adjacent observations-ports on all sides of the hull; a side diver's port and a large bottom hatchway for lowering a deep-water bathysphere with two men and equipment for oceanographic geophysical investigations. For rescue and salvage work, the submarine should have a special telescopic tube and acetylene torches for tight attachment to the smaller vessel and penetration into its interior. Many other proposed devices are also discussed. Copy seen: DLC.

48343. TARASOV, N.I. More zhivet; izd. 3, dop. Moskva. Gos. izd-vo "Sovet-skafa nauka," 1956. 376 p. illus., colplates, maps. Text in Russian. *Title tr.*: The sea is living; 3rd ed. enlarged.

Similar in order and arrangement as No. 26630, but with text enlarged, and a new section appended giving the Latin names of the organisms dealt with. Information on arctic forms and problems of marine life appears scattered throughout the text, also in special sections, e. g., in that dealing with fisheries: Russian and arctic fisheries, whaling, sealing and the hunting of other sea-animals (p. 295–324). The larger part of the chapter on birds (p. 105–135) deals with polar forms. Copy seen: DLC.

48344. TARASOV, P. P. O nekotorykh osobennostákh morfologii severnogo olená kak zhivotnogo tundry. (Moskovskoe obshchestvo ispytateleľ prirody, Búlleten', otd. biol., July-Aug. 1956. nov. ser., t. 61, no. 4, p. 80–82) 6 refs. Text in Russian. Title tr.: Some peculiarities of the morphology of the reindeer as a tundra animal.

Attempt is made to explain the functional importance of certain features of the reindeer's morphology as an adaptation to environmental conditions in the Arctic. The wide hoofs of the fore legs are necessary for digging lichens (main food) covered by a thick layer of snow; the large antiers protect a certain area of the snow (and lichens) from competition of other members of the herd, while digging for food, etc. Based on the ob-

servations in the Lena, Vitim, Olekma River basins of northern Yakutia.

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48345. TARASOV, S. M. Ochistka dorozhnykh pokrytiľ ot uplotnennogo i obledenevshego snega avtogreľderom D-144. (Mekhanizafsifa stroiteľ stva, Feb. 1956. god 13, no. 2, p. 28-29, illus., diagrs.) Text in Russian. *Title tr.:* Removal of packed and icy snow from pavements with the D-144 grader.

The construction of a serrated blade for use with a road grader is described, and results of tests on streets covered with dense snow up to 25 cm. thick are reported. The best results without pavement damage were obtained with speeds from 5-7 km./hr. Layers 3-4 cm. thick were removed with the blade fixed at a right angle to the surface. The denser layers were removed most satisfactorily with the blade tilted at a 35°-45° angle. The improved type of the grader blade has a removable knife bolted to it. knife, of rolled steel, with a special alloy steel or cast iron layer welded on the working surface (details shown fig. 2-3) withstood 40-60 hours' work without Copy seen: DLC. sharpening.

TAREN, JAMES A., see Bering, E. A., and others. Studies . . . hypothermia in monkeys, 2 . . . general physiology . . . 1956. No. 43995.

TAREN, JAMES A., see also McMurrey, J. D., and others. Studies on hypothermia in monkeys, 1...occlusion... circulation...brain. 1956. No. 46548.

48346. TAYLOR, ANDREW, 1907—. Our polar islands, the Queen Elizabeths. (Canadian geographical journal, June 1956. v. 52, no. 6, p. 232–51, 16 illus., text map.)

Outstanding aerial photographs, with descriptive text on the Canadian Arctic Islands north of Lancaster Sound — M'Clure Strait; deals with exploration and mapping, sovereignty and geopolitical setting, North Magnetic Pole, geology, permafrost, physiography, glaciology, oceanography, climate, human geography and archeology, flora and fauna.

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48347. TAYLOR, ANDREW, 1907—. Physical geography of the Queen Elizabeth Islands, Canada. New York, American Geographical Society, June 1956. 12 v. illus., maps (incl. 10 fold. in v. 12),

diagrs., cross-sections. Mimeographed. (Contract no. Nonr-1070 (00)). Approx. 600 refs.

A detailed survey of the northern group of Canadian Arctic Islands (74°-81° N. 80°-125° W.) in four large sections, complementing the historical coverage in No. 42763. The introductory section, comprising v. 1 and 2, deals briefly (in v. 1) with the island group as a whole, its setting, exploration, administration, etc., general description of each island, climate, cartography, oceanography, flora and fauna, human geography, archeology, North Magnetic Pole; then, in much more detail, the geology. Volume 2 covers glaciology, the present distribution of land ice, the fiords of Ellesmere and Axel Heiberg as a key to Pleistocene glaciation, and the sequence of events during the Pleistocene. In the second large section (v. 3-10) the physiography of each island in the Queen Elizabeth group is described in turn, starting with Ellesmere and working south, then west. A brief history of exploration, relief, drainage pattern, geology, glacial cover (if present), mineral resources (if any), are given, followed by a detailed regional description of the island, especially coastal areas. The third and fourth major sections consist of the bibliography (v. 11), and preliminary base maps (v. 12) of the area, in scale 8 mi: 1 in. in ten sheets, viz,: Northern, Southern Ellesmere, Devon and Cornwallis, Bathurst, Findlay group, Melville, Prince Patrick, Stefansson, Ringnes, and Axel Heiberg Islands. The individual volumes (not listed separately in this Bibliography) are:

1. Introduction; geology. 105 p. 6 maps, 37 photos.

2. Glaciology. 90 p. 6 maps, 8 profiles, 21 photos.

Ellesmere Island: Grant Land. 99
 3 maps, 9 photos.

4. Ellesmere Island: Grinnell and Sverdrup Lands. 85 p. map, 27 photos.

Ellesmere Island: Lincoln Land.
 p. map, 5 photos.

6. Devon Island. 95 p. map, diagr. 19 photos.

Cornwallis and Bathurst Islands.
 p. map, 10 photos.

8. Melville Island. 77 p. map, 8 photos.

 Prince Patrick, Stefansson, Findlay, and Ringnes Islands.
 p. map, 18 photos.

Axel Heiberg Island. 53 p. map,
 photos.

11. Bibliography. 30 p.

12. Maps (10 fold.)

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TAYLOR, ANDREW, 1907—, see also U. S. Dept. of the Army. Land navigation by dead reckoning. 1949. No. 48593.

TAYLOR, B. J. R., see Kerkut, G. A., and B. J. R. Taylor. Effect of temperature . . . activity . . . isolated ganglia . . . 1956. No. 45949.

48348. TAYLOR, F. C. Hill Island Lake (east half), District of Mackenzie Northwest Territories; map with marginal notes. Ottawa, Queen's Printer, 1956. fold. map, 20 x 24 in. (Canada. Geologi-

cal Survey. Paper 55-16).

Map (scale 1 in.: 4 mi.) covers the area 60°-61° N. 108°-109° W., due north of Uranium City and the Beaverlodge area of northern Saskatchewan; it includes basins of the Abitau and Thoa Rivers. dences of glacial ice movement are common throughout, and in the eastern maparea glacial outwash covers much of the bedrock. The Precambrian rocks consist (from oldest to youngest) of quartzites, feldspar porphyry, granitic and granodioritic gneisses (most abundant rocks of the region), granite, and northwesterlytrending diabase dikes. The diverging attitudes of schistosity and foliation suggest tight folding; north- and east-striking faults occur in the southern map-area. No mineral deposits of economic impor-Copy seen: DGS. tance are known.

TAYLOR GÉRALD, see Pluvinage, P., and G. Taylor. Rapports . . . température de l'air . . . 1956. No. 47376.

48349. TAYLOR, ISAAC M. The effect of low temperatures upon intracellular potassium in isolated tissues. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 26–31, illus., tables.) 7 refs.

Account of experiments with hemidiaphragms of rats and hamsters incubated in Krebs-Ringer-bicarbonate solutions, with glucose of various temperatures (38° to 5° C.). Observations on temperature effects on the isolated heart are presented for comparison. In contrast to the diaphragm (and other tissue), the perfused hypothermic heart did not show loss of potassium. Copy seen: DLC.

TAYLOR, L. D., see Barnes, D. F., and others. Gravity . . . bedrock and ice . . . topographies . . . ice cap. 1956. No. 43880.

48350. TAYLOR, R. S. Glacial geology of north-central Keewatin, Northwest Territories, Canada. (Geological Society of America, Bulletin, Aug. 1956. v. 67, no. 8, p. 943–55, 6 maps (1 fold.), diagrs.,

graph.) 28 refs.

Contains results of field work in the area, 65°40'-66°40' N. 96°10'-99°20' W., in July-Aug. 1953 during the Univ. of Minnesota-Wilkie Back River Expedition led by W. J. Breckenridge. Much of the area is mantled by till, whose thickness exceeds 100 ft. in places. A complex history of glacierization is recorded by drumlins of diverse patterns, by eskers, and by features eroded in bedrock. The eskers form a dendritic pattern and are believed the result of regressive deposition from consequent superglacial streams. Some transitory proglacial lakes existed, but there has been no post-Wisconsin marine submergence. . . . The recorded sequence of ice movements, from oldest to youngest is to southeast, to north, to N. 30° W., and to N. 60° W. A carbon-14 age determination of 4140 ± 150 yrs. was made on peat buried by the last ice advance. From author's abstract.

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48351. TAYLOR, RAYMOND FRANK, 1897—. The role of forest research in developing an Alaskan resource. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 97–105.)

Site factors affecting tree growth are stated and need for their study stressed. Organized forest research initiated in Southeast Alaska in 1948, should be started also in the Interior. Work of the Alaska Forest Research Center is outlined in its appraisal of the Tongass National Forest: of its 16 million acres, three million are in commercial forest, mostly decrepit over-mature climax forest. Cutting is recommended, and old stands replaced by young trees. Advantages of clearcutting over the selection system in this area are discussed; also the conversion of the ancient stands to secondgrowth. Copy seen: DGS.

TAYLOR, REGINALD, G., see Hare, F. K., and R. G. Taylor. The position . . . forest boundaries in southern Labrador-Ungava. 1956. No. 45439.

48352. TAYLOR, W. E. Archaeological work on Southampton Island, 1956. (Arctic circular, 1956. v. 9, no. 3, p. 39-41.) Ref.

Reports work at Native Point by the writer and C. H. Nutt for the National Museum of Canada, continuing program of 1954–1955, directed by Dr. H. B. Collins (No. 39324). Excavation of one house at the Thule culture site was completed. Efforts were concentrated on the large Sadlermiut site where this group was destroyed by epidemic in 1902–1903. Artifacts, six human skeletons, fish, bird, and manmal bones were collected. Sadlermiut houses are described.

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**48353. TEAL, JOHN J.**, *Jr*. The musk-ox and northern agriculture. (Polarboken, 1956. p. 164–77, illus.)

Case is presented for developing a system of agriculture based on selective breeding of northern plants and animals. Experiments in domestication of musk-oxen are recounted: animals captured in Mackenzie District under study in Vermont. Their protection from disease, effective feeding and handling and their easy adaptation to changed environment are discussed. Their value is as woolrather than meat-producers.

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TEDESCHI, G., see Angeli, G., and G. Tedeschi. Sui rapporti tra eparina e istamina. 1954. No. 43673.

TEGENGREN, F. R., see Kautsky, F., and F. R. Tegengren. Die Geologie . . . Umgebung . . . Tuoddarjaure . . . 1952 No. 45914.

48354. TEGSTRÖM, RICKARD. Filma rajd. (På skidor. Föreningen för skidlöpningens och friluftslivets främjande i Sverige. Årsbok 1953. p. 36–46, illus.) Text in Swedish. *Title tr.:* Filming a Lapp caravan.

Describes an autumn migration of a party of Lapps with their reindeer in the Sarek Mts. of north Sweden.

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**TEICHMANN, O. E.,** see Armour Research Foundation. Investigation of solar energy for ice melting . . . 1949. No. 43736.

48355. TELENGA, N. A. Pereponchatokrylye, t. 5, vyp. 4. Sem. Braconidae [chast' 3-4]. Podsem. Microgasterinae, podsem. Agathinae. Moskva-Leningrad, Izd-vo Akad. nauk SSSR, 1955. 311 p. 120 illus. (In: Fauna SSSR. Insecta Hymenoptera, t. 5, vyp. 4 (Nov. ser., no. 61)) 21 refs. Text in Russian. Title tr.: Hymenoptera, Fam. Braconidae [pt. 3-4]. Subfam. Microgasterinae, subfam. Agathinae.

Contains a systematic index of the species of this fam. and subfamilies, followed by keys to the tribes, genera and species. A systematic list is given of 358 species, with diagnoses of fifty-three new ones, synonyms, descriptions, distributional data and notes on hosts (caterpillars). Some species are registered not in the U. S. S. R. but in adjoining countries of Europe and Asia. Microplitis tuberculifera and Agathis genalis n. sp. from Yakutia, Siberia, are included. Pt. 1–2 on this family was listed as No. 32400 of Arctic Bibliography.

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48356. TEMPLEMAN, WILFRED 1908— . Groundfish stocks of the western North Atlantic. (North American Wildlife Conference. 20th, Montreal, Canada, 1955. Transactions, p. 454–76, map) 36 refs.

An account of exploitation and exploration of the chief commercial bottom fishes of the region, which includes the Arctic Sub-areas 1 and 2 as defined by the International Commission for the North Atlantic Fisheries. Cod, redfish, plaice, halibut and haddock are considered. The biology, growth, ecology, fishing methods, and conservation are also discussed.

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TEMPLEMAN, WILFRED, 1908—, see Bailey, W. B., and others. The horizontal distribution of temperatures . . . 1954. No. 43818.

TEMPLEMAN, WILFRED, 1908—, see also International Commission for NW. Atlantic Fisheries, Annual proceedings . . . 1955–56. 1956. No. 45703.

48357. TENDER, B., and others. Modificações electrocardiográficas por desvios térmicos. (Jornal do médico, Dec. 1955. anno 15, no. 672, p. 807–808, illus.) 5 refs. Text in Portuguese. Other authors: V. Periera and M. Amarante, Jr. Title tr.: Electrocardiographic modifications during thermic deviations.

Account of observations on dogs made hypothermic to about 17–18° C. with crushed ice and nembutal anesthesia, and kept under artificial respiration. No species specific characteristics in the response of the heart were noted.

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48358. TENER, JOHN S. Annotated list of birds of part of the Back River, N. W. T. (Canadian field-naturalist, July-Sept. 1956. v. 70, no. 3, p. 138-41.) 7 refs.

Contains notes on 28 species of birds observed at the junction of Back and Baillie Rivers and at Pelly and Beechey Lakes, July 31-Aug. 9, 1955.

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48359. TENGWALL, TOR ÅKE. Die Gefässpflanzen des Sarekgebietes. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 3, Botanik, Lfg. 7, pub. 1925. p. 627–74.) Text in German. Title tr.: The vascular plants of the Sarek region.

Localities investigated by the author in the summers of 1913–1918 are stated, and a systematic, annotated list is given of 33 ferns and fern allies together with 300 other vascular plants; localities and distributional data, habitat and frequency, etc., are indicated.

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48360. TENGWALL, TOR ÅKE. Nachtrag zur Flechtenflora des Sarekgebietes. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 3, Botanik, Lfg. 7, pub. 1925. p. 694–702.) 5 refs. Text in German. Title tr.: Supplement to the lichen flora of the Sarek region.

Contains a systematic annotated list of about a hundred lichen species and forms, mostly collected by the author in the summers of 1913–1918, with data on habitat. Six species were not previously recorded in the region. Supplementary to No. 47049.

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48361. TENGWALL, TOR ÅKE. Die Vegetation des Sarekgebietes, Abteilung I–II. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 3, Botanik, Lfg. 4, pub. 1920, p. 269–436, 73 illus., plates 10–11 (fold. maps), 11 tables; (II) Lfg. 8, pub. 1925, p. 703–774, 24 illus., 15 tables.) 135+105 refs. Text in German. Titte tr.: The vegetation of the Sarek region, I–II.

Contains, in pt. I, a survey of physical conditions of this high mountain region of Swedish Lapland and of its zonal subdivisions: general geography, topography, geology, meteorology with tabular data; account of the distribution of the woody vegetation and northern tree line (table 11); a study of plant associations: birch forests, shrubs, meadows and aquatic plant formations, with lists of their typical and common species. The two main vegetation regions, sub-alpine and alpine, are described according to their geographical sections.

Pt. 2 is a study of the ecological factors influencing alpine vegetation, such as snow, water content of various substrata in the investigated region, and calcium content in the substrates, with tabulated data of each. The succession of vegetation in deltas of various mountain springs and rivulets (especially Laitaure delta) and constant species of some alpine associations and their relation to ecological factors are noted. The history of flora and vegetation of Sarek region in glacial and post-glacial periods is discussed.

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48362. TERASMAE, J. Palynological study of Pleistocene deposits on Banks Island, Northwest Territories, Canada. (Science, May 1956. v. 123, no. 3201, p. 801–802, illus., tables.) 2 refs.

Account of micro-fossil plant remnants collected in the vicinity of Cape Kellett (72° N. 120° W.). The assemblage and relative members of pollen grains suggest local forest coverage; the present timber line is about 200 miles southwest of the island. The presence of *Ephedra* pollen, a group of limited distribution at present, is also discussed. *Copy seen*: DLC.

TERENT'EV, V. M., see Godnev, T. N., and V. M. Terent'ev. Fiziologicheskie prichiny poleganiâ . . zlakov . . . 1953. No. 45148.

TERESHCHENKO, NATALIA MIT-ROFANOVNA, see Zyrin, A. Leksikograf...1956. No. 49086.

TERMAN, I. A., see Voznesenskii, A. N., and I. A. Terman. Gidroenergeticheskie resursy...1956. No. 48822.

48363. TERUMOTO, ISAO. The freezing point on the freezing curve of plant tissue; preliminary note. (Teion-kagaku, Low temperature science, Sapporo, 1956. v. 14, ser. B, p. 25-28, illus., tables.) 4

refs. Text in Japanese. Summary in English.

Account of records on the freezing point of apple tissue variously treated. Killing by heat or freezing of both tissue or sap alone were applied. The disagreement in same results is discussed.

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48364. TERZIOĞLU, M., and F. ÖZER. Blood heparin level and the status of blood coagulation in cats during hypothermia. (Archives internationales de physiologie, Jan. 1956. v. 64, fasc. 1, p. 1-19, illus., tables.) 27 refs.

Account of an experimental and comparative study of animals submitted to pharmacological as against physical hypothermia. Blood coagulation time, plasma and blood fibrin amount showed no change during hypothermia; prothrombin time was slightly delayed and mean percentage of cell volume increased by 17.2 percent. Anti-thrombin activity of blood in physically cooled animals was increased in comparison with those cooled pharmacologically.

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48365. TETERIN, D. Puti dal'neishego uluchshenia raboty sibirskikh lesprom-khozov. (Lesnaa promyshlennost', Apr. 1956. god 34, no. 4, p. 9-11, illus.) Text in Russian. Title tr.: Possibilities for further improvement in production of the Siberian timber industry.

Causes of low production are analyzed and various improvements suggested, particularly in extension of mechanization and in better coordination of winter and summer work. Increase of snow drift protection, automotive snow-removers and wider use of sled trailers are suggested.

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THANING, O., see Anrick, C. J., and O. Thaning. Adelig öfning . . . svenska geografi. 1950. No. 43682.

48366. THAUER, RUDOLF. Ergebnisse experimenteller Kreislaufuntersuchungen bei Hypothermia. (Thorax-Chirurgie, 1956. Bd. 3, Heft 6, p. 521-38.) 103 refs. Text in German. Title tr.: Results of experimental studies of circulation during hypothermia.

Following an introductory outline of the surgical value of hypothermia, the author discusses, on the basis of others' and his own work, O<sub>2</sub>-consumption during hypothermia; blood circulation; hemodynamics; nervous control of circulation; causes of death from hypothermia with suspended circulation, etc.

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48367. THERKELSEN, FREDE. Grønlandske svampe. (Atuagagdliutit: Grønlandsposten, May 17, 1956. Ukiut 96-iat, nr. 10, p. 3-6, illus.) Text in Danish and Eskimo. Title tr.: Fungi in Greenland.

Popular survey with description of about a dozen species. Practically all fungi in Greenland are edible.

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48368. THERKILSEN, KJELD RASK. Greenland and aviation serve each other. (*In:* Opening tomorrow's airways, special no. of Danish Foreign Office journal, 1956. p. 33–36, 5 illus., map.)

Contains a brief historical account of the coming of aviation to Greenland, including early exploration, military uses, and the use of aircraft in mercy missions. The meteorological importance of this area is emphasized, and the location of permanent weather stations in Greenland is charted.

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THERKILSEN, KJELD RASK, see also Denmark. Udenrigsministeriet. Greenland. 1956. No. 44601.

THIBAULT, C., see Ortavant, R., and C. Thibault. Influence de la durée d'éclairement . . . 1956. No. 47200.

THOMAS, BERTRAM D., see Thompson, T. G., and others. Distribution of dissolved oxygen . . . 1934. No. 48381.

48369. THOMAS, H. DUKE, and others. The effects of moderate generalized hypothermia on the ballistocardiogram of the dog. (American heart journal, Apr. 1956. v. 51, no. 4, p. 562-67, illus., tables.) 7 refs. Other authors: W. H. Frederick, A. R. Pappas, J. D. Real, and E. E. Eddleman, Jr.

Hypothermia was observed to produce "a marked differential prolongation of the K-L interval of the ballistocardiogram and the interposition of a slow headward movement during this period." The peculiarities of the technique applied are discussed.

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48370. THOMAS, J. F. JAMES. Interim report: hardness of major Canadian water supplies. Ottawa, Queen's Printer, 1956. 18 p. 2 tables. (Canada. Dept. of Mines and Technical Surveys. Mines Branch. Memorandum series, no. 132.) 7 refs.

Contains partial results of investigations by the Canadian Mines Branch since 1947 on chemical quality of surface and ground waters available for industrial and municipal use. Yukon River system waters range from 40 to 180 p. p. m. Mackenzie River and tributaries are mediumhard to hard. Large lakes of the Mackenzie system are quite soft (total hardness of 20-30 p. p. m.) as is the Churchill River (30-40 p. p. m.) near its mouth at Hudson Bay. Tables of water hardness in Canadian municipalities include Dawson City and Whitehorse, Yukon; Aklavik, Fort Smith, Norman Wells, and Yellowknife, Mackenzie District; and Moose Factory, northern Ontario.

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THOMAS, LEO ALMOR, 1917—, see Stump, R. W., and others. Properties and geologic occurrence . . . silt deposits . . . Matanuska . . . 1956. No. 48236.

48371. THOMAS, LYELL JOY, 1892-, and B. B. BABERO. Some helminths of mammals from St. Lawrence Island, Alaska, with a discussion of the nomenclature of *Echinococcus* in voles. (Journal of parasitology, Oct. 1956. v. 42, no. 5, p. 500.)

Contains a list of "about 8 species" of parasites and their hosts collected in the summers of 1954 and 1955. The problem of Eurasian and American Echinococcus species, their hosts, and the question of variability in echinococcosis are submitted to a critique.

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48372. THOMAS, LYELL JOY, 1892-, and B. B. BABERO. Studies on rodent echinococosis. (Journal of parasitology, Aug. 1956. v. 42, no. 4, section 2, p. 40.)

Summary of a paper with information on echinococcosis as a health menace on St. Lawrence Island, Alaska; taxonomic position of the parasite; animal hosts; experimental infection of voles and mice; viability of eggs at low temperature, etc.

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THOMAS, MORLEY K., see Boughner, C. C., and others. Climatic summaries . . . III; frost data. 1956. No. 44103.

48373. THOMASSON, KUNO. Reflections on arctic and alpine lakes. (Oikos, 1956. v. 7, no. 1, p. 117-43, 14 illus.) 40 refs.

Such hydroclimatic factors are con-

sidered as: insolation (small supply of heat and short vegetational period); heat economy (losses due to radiation are much smaller than on land); ultra-violet radiation, which is of great biological importance; and nutritive materials in such small amounts in these lakes as to constitute a limiting factor. Plankton composition is discussed on the basis of material from several lakes in the Abisko and Torneträsk regions, two in the Kebnekaise massif (species listed), also some alpine lakes in Norway, central Europe and elsewhere. Its cosmopolitan character is stressed: both arctic and alpine plankton represent impoverished variants of the communities of lower latitudes and altitudes respectively, the impoverishment of phyto- increasing with latitude and altitude, at a faster rate than zooplankton. In conclusion, problems in classification of lakes are reviewed; arctic and alpine lakes are characterized as ultra-oligotrophic and feebly productive, but significant in elucidation of basic ecological problems.

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48374. THOMASSON, KUNO. Die Verbreitung des Rothalstauchers, Podiceps g. griseigena Bodd. in N-W.-Europa. (Zoologiska bidrag från Uppsala, 1953–56. bd. 30, p. 157–68, 3 illus.) 42 refs. Text in German. Summary in English. Title tr.: Distribution of the red-necked grebe in northwest Europe.

A summary of all known breeding records in Baltoscandia compiled from the literature. The red-necked grebe was rare in the 17th and 18th centuries; from the middle of the last century it became increasingly common. The general distribution and that in Baltoscandia (including Swedish, Finnish and Russian Lapland) is represented on text maps. The author assumes that there is no evident tendency towards expansion now. The present fluctuations in distribution in northern Europe are rather small and chiefly of a local character.

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48375. THOMOPOULOS A. Influence de la lumière sur le mouvement de l'oeuf de truite, Salmo irideus, Gib. (Société de Biologie, Paris. Comptes rendus, 1956. t. 150, no. 12, p. 2091-93, illus.) 3 refs. Text in French. Title tr.: The influence of light upon the movement of the egg of the trout, Salmo irideus, Gib.

Author observed that intense, full, artificial light stopped the internal move-

ment of trout eggs. Preliminary studies reported indicate that the inhibitive power depends on the light intensity and on the size of the egg. The properties of the different regions of the light's spectrum are also noted.

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48376. THOMPKINS, R. W. Designs for heating mine air. (Canadian mining journal, Sept. 1956. v. 77, no. 9, p. 102–104, diagrs.)

Freezing surface temperatures often necessitate heating air used for mine ventilation. Importance of weather data is discussed, also amount of heat required, steam coil heating and heater controls, counter-flow heaters. Copy seen: DGS.

48377. THOMPSON, HUGH RALPH, 1926—, and B. H. BONNLANDER. Temperature measurements at a cirque bergschrund in Baffin Island: some results of W. R. B. Battle's work in 1953. (Journal of glaciology, Oct. 1956. v. 2,

no. 20, p. 762-69, illus., graph.) 12 refs. Results of field work in Pangnirtung Pass (approx. 66°06' N. 65°58' W.) during the Arctic Institute's Baffin Island Expedition, summer 1953. "Thermograph, thermistor, and thermometer readings at a 30 m. deep bergschrund from June 6 to July 22, 1953, showed . . . little direct relationship between air temperatures outside and at the bottom of the schrund. The air temperature inside ranged from  $-3.7^{\circ}$  C.  $(25.3^{\circ}$  F.) to +0.5° C. (32.9° F.), but from July 2 onwards it oscillated between  $-0.5^{\circ}$  C. and +0.5° C., with a 3-4 day periodicity. The ice temperature at the bottom of the schrund behaved similarly, though it was about 0.5° C. colder. The oscillations may have been caused by the interplay of flowing meltwater (source of heat) and air drainage in quiet weather (source of cold). The granite-gneiss headwall, where not sheathed by refrozen melt water, appeared to be chemically and mechanically unweathered." - Authors' abstract. Copy seen: DGS.

48378. THOMPSON, RALPH F. Water treatment, Ladd Air Force Base. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 64-67, tables.)

The design of a large capacity water treatment plant is described. It is designed for a daily normal rate of flow of 1.2 M. G. D., water being supplied by a deep well turbine pump of 750 gpm capacity. Breakpoint chlorination dosage followed by rapid mixing, sedimenta-

tion and rigid sand filtration are used for treating. A summary of the test results of pilot plant treatments is given, and operational statistics are included. All treating facilities are completely enclosed in heated buildings. *Copy seen:* DGS.

THOMPSON, RICHARD G., see Moulder, P. V., and R. G. Thompson. Protection of heart under hypothermia . . . 1956. No. 46873.

48379. THOMPSON, SETON HAYES, 1906— . Alaska fishery and fur-seal industries: 1954. Washington, D. C., U. S. Govt. Print. Office, 1956. 4, 70 p. illus., tables, map. (U. S. Fish and Wildlife Service. Statistical digest, no. 37.)

Digest on fisheries (p. 1-52) deals with research, exploration and administration; management of fresh waters; study of runs and escapement of salmon; stream improvement; general statistics covering the salmon, herring, halibut, also shellfish and other minor fisheries and their various products. Section on fur-seal industry (of the Pribilof Islands) covers administration, population studies and general statistics, including take of seals in 1954, sale of skins and their disposition, sale of foxskins. Notes on reindeer and native sealing privileges are added.

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48380. THOMPSON, THOMAS GORDON, 1888-, and K. H. NELSON. Concentration of brines and deposition of salts from sea water under frigid conditions. (American journal of science, Apr. 1956. v. 254, no. 4, p. 227-38, graphs.) 14 refs. Also pub. as: Washington (State), University, Dept. of Oceanography, Contribution, no. 191. Discussion by George W. Bain in this journal, Dec. 1956, v. 254, no. 12, p. 758-60.

Presents "evidence that the origin of some salt deposits may have occurred from the concentration of sea water under frigid conditions rather than by evapora-The order in which salts deposit from brines subjected to such conditions differs from the order in which salts deposit by evaporation. Concentrated brines result from the freezing of sea water from which small quantities of calcium carbonate precipitate. On cooling, sodium sulfate decahydrate is deposited from the brines, followed by the depositions of the sodium chloride dihydrate, potassium chloride, and magnesium chloride. Carnalite can form only as the result of secondary reactions. The embayment and bar theory of Bischof and Ochsenius is applied to explain the deposition of salts by frigid concentration from sea water and also to explain the formation of some sulfate lakes."—Authors' abstract.

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48381. THOMPSON, THOMAS GORDON, 1888-, and others. Distribution of dissolved oxygen in the North Pacific Ocean. (In: James Johnstone memorial volume. Liverpool, 1934. p. 203-234, illus., tables.) 9 refs. Other authors: B. D. Thomas and C. A. Barnes.

A study of vertical distribution of dissolved oxygen with emphasis on the minimum oxygen layer: stations were made by the research vessel Catalyst during the summers 1932, 1933, from 47°48′ N. to 57°42′ N. including the waters off Cape Spencer, Alaska, those south of the Aleutian Ridge and those of the Bering Sea. The relation of dissolved oxygen to total CO<sub>2</sub>, phosphates and silicates and their distribution with depth are also discussed. Previously listed as No. 17614. Copy seen: DLC.

THOMPSON, THOMAS GORDON, 1888-, see also Barnes, C. A., and T. G. Thompson. Physical and chemical investigations . . . 1938. No. 43876.

48382. THOMPSON, WILLIAM FRAN-CIS, 1888- . The red salmon of the Nushagak. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub.* 1956, p. 89-90.)

Factors affecting the salmon run of this river were studied by the Fisheries Research Institute in 1946: including catch, escapement, growth in fresh water, outward migration, and return. A knowledge of these factors is believed to enable a prediction of the return to Bristol Bay from each year's seaward migrants.

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THOMPSON, WILLIAM FRANCIS, 1888—, see also Van Cleve, R., and W. F. Thompson. A record . . . pomfret and barracuda . . . 1938. No. 48678.

THOMSEN, HELGE, 1904—, see Denmark. Meteorologiske Institut. Isforholdene . . . 1953. 1956. No. 44598.

**48383.** THOMSON, J. G. The performance of tracked and wheeled vehicles in snow. (*In:* U. S. Office of Ordnance Research. Interservice Vehicle Mobility

Symposium, 18-20 Apr. 1955. v. 2, Papers, p. 100-101.)

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Snow depths seldom exceed 30-36 in. on the plains of the Canadian sub-Arctic, eastern Siberia, and mid-continental This cover, after metamorphism, Russia. provides frontal motion resistance by a structured snow, and traction and flotation by a disaggregated snow. Sufficient information is available to design and produce a mobile oversnow vehicle. At least two alternate methods are available: (1) provide sufficient belly height to allow operation on the relatively hard underlying surface and a narrow enough track or wheel to sink expeditiously to the hard layer at low track or wheel slips and low frontal motion resistance; (2) provide sufficient wheel or sprocket torque to allow for the motion resistance of a snow plow or blower while the vehicle itself operates on bare ground or shallow snow. Copy seen: DLC.

48384. THOMSON, JOHN W. Lichens of arctic America, 3; a collection of lichens from Southampton Island by J. C. Ritchie. (Bryologist, Sept. 1956. v. 59, no. 3, p. 222–25.) 5 refs.

A record of 57 taxa, 33 new to the Island, with notes on ecology, substrate, occurrence, etc. The plants were collected in midsummer 1954, at Coral Harbour (64°08' N. 83°10' W.).

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THOMSON, S., see Hardy, R. M., and S. Thomson. Measurement . . . strength of muskeg. 1956. No. 45435.

THORN, W. A., see Henry, T. J. G., and others. Vector mean winds . . . rawin stations in Canada. 1954. No. 45525.

48385. THORNE, ROBERT L., and R. R. WELLS. Studies of the Snettisham magnetite deposit, southeastern Alaska. Washington, D. C., Feb. 1956. 41 p. 7 text maps, 2 graphs, 8 sections, 10 tables. (U. S. Bureau of Mines. Report of investigations 5195.) 4 refs.

Studies of a large basic intrusive containing titaniferous magnetite on Snettisham Peninsula were conducted in 1952–1954. Physical features, climate, history and ownership of the region (57°59′ N. 133°46′ W.) are briefly described. Northern part of the peninsula is composed of pyroxenite and diorite intruded into phyllite. The pyroxenite contains magnetite, generally disseminated but also in localized concentrations. The diorite

contains magnetite in smaller percent-Intrusive occupies land area of approx. 390 acres and extends under the waters of Port Snettisham inlet for an unknown distance. Transit and magnetic surveys, diamond core drilling, core sampling and analysis, and beneficiation studies are described. Results are given in tables and graphs. Core samples assayed 11-45 percent total iron. Beneficiation by standard, comparatively lowcost methods resulted in recovery of 61-64 percent of the total iron in a concentrate assaying about 64 percent iron, 3.5 percent TiO2, 0.3 percent V, 0.4 percent S, and less than 0.01 percent P. Copy seen: DGS.

THORNE, ROBERT L., see also Rutledge, F. A., and others. Preliminary report: nonmetallic deposits . . . construction . . . 1953. No. 47716.

THORNE, ROBERT L., see also Wells, R. R., and R. L. Thorne. Concentration of Klukwan . . . magnetite . . . 1953. No. 48891.

THORNTHWAITE, CHARLES WIL-LIAM, 1899-, see Mather, J. R., and C. W. Thornthwaite. Microclimatic investigations . . . Barrow . . . 1956. No. 46656.

48386. THORSHAUG, K., and A. F. ROSTED. Researches into the prevalence of trichinosis in animals in arctic and antarctic waters. Oslo, Brøgger, 1956. 15 p. tables. (Norway. Norsk Polarinstitutt. Meddelelser. nr. 80.) 9 refs. Sumaries in English, German and Norwegian. Reprint of Nordisk veterinärmedicin, Stockholm, 1956, bd. 8, nr. 2, p. 115-29.

Account of investigations made during 1949-53 largely in arctic areas: the socalled North and East ice (area between Spitsbergen, Bjørnøya, Novaya Zemlya, Zemlya Frantsa-Iosifa and Murmansk), West ice (drift ice between Jan Mayen and East Greenland), Newfoundland, Denmark Strait. In polar bears, infection rate ranged from 16.67 percent in onetwo year old animals, to 79.31 percent in old ones, infection being generally of a medium degree. In walruses (73 examined) 9.6 percent showed trichinae; of four specimens from dogs, one was infected. No trichinae were found in bearded seal, bladder-nose, Greenland seal, ringed seal, Weddel, Ross, or leopard seal, finback, sperm whale, white whale and Greenland shark. Seal stocks of the West ice and Newfoundland are free of infection; but Spitsbergen and eastern waters stock are suspect due to high infection rate among polar bears. Role of walrus is stressed. *Copy seen:* DGS.

48387. THORSON, KENNETH N. An analysis of the gains and losses to the king salmon fisheries of southeastern Alaska resulting from the minimum size limit. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 75.)

The investigation showed a loss due to size limitations in the "inside water" fishery but only an insignificant loss in the "outside" waters. It is suggested to retain the size limit but to close certain areas when small fish predominate.

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48388. THRON, H. L. Der Einfluss der Umgebungstemperatur auf die Körperschalendurchblutung. (Archiv für physikalische Therapie, 1956. Jahrg. 8, Heft 3, p. 158–62.) 18 refs. Text in German. Title tr.: The influence of ambient temperature upon peripheral circulation.

Contains account of observations, with improved techniques, on the human cheek exposed to temperatures of 5° to 42° C. Contrary to earlier findings, it was noted that circulation fell in a nearly linear relation with the drop of environmental temperature.

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48389. THRON, H. L. Der Temperaturgradient in der menschlichen Gesichtshaut bei Einwirkung verschiedener Umgebungstemperaturen. (Pflügers Archiv für die gesamte Physiologie, 1956. Bd. 263, Heft 2, p. 109–125, illus.) 54 refs. Text in German. Title tr.: Temperature gradient in the facial skin at various ambient temperatures.

A study on a healthy male subject with environmental temperatures ranging from 42° to ±5° C. The temperature differential between the inner and outer surface of the cheek, rose linearly with the fall of ambient temperature below 28–29° C.; sublingual temperature under same ambient conditions, showed great independence. Tissue temperature distribution, heat production and conduction as well as blood circulation are calculated from the observational data.

48390. THRON, H. L. Wärmedurchgangszahl und Durchblutung der menschlichen Gesichtshaut bei Einwirkung verschiedener Umgebungstemperaturen. (Pflügers Archiv für die gesamte Physiologie, 1956. Bd. 263, Heft 2, p. 127-44, illus.) 45 refs. Text in German. Title tr.: Heat transit value and blood circulation in the facial skin at various ambient temperatures.

Account of investigations on a healthy male at environmental temperature of  $\pm 5^{\circ}$  to  $42^{\circ}$  C. Heat transit values showed a continuous increase with rising ambient temperatures and circulation showed a similar behavior. The conductive and convective elements of heat transit were separated and calculated and their relation to the circulation mathematically analyzed.

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48391. THUNAES, A., and others. Development of the Port Radium leaching process for recovery of uranium. Ottawa, Queen's Printer, 1955. 22 p. graph, 7 tables. (Canada. Dept. of Mines and Technical Surveys. Mines Branch. Technical paper, no. 13.) Refs. Other authors: E. A. Brown and R. Simard.

Pitchblende from the rich ore in upper levels of mines at Port Radium (on Great Bear Lake, 66°03′ N. 117°53′ W.) was recovered by gravity concentration for many years. In lower mine levels, pitchblende is finely disseminated. Progress towards better method of recovery is traced from 1946 to 1952 when present leaching plant was completed. Leaching process is based on extraction of uranium by treatment of the ore with weak unheated sulphuric acid solutions in the presence of an oxidizing agent. The chemistry of both leaching and precipitation processes is described, supplemented by graph and tables.

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48392. THURONYI, GEZA, 1919—, and others. A selective annotated bibliography on the micrometeorology of snow cover. (Meteorological abstracts and bibliography, July 1956, v. 7, no. 7, p. 873–921; supplement, Aug. 1956, v. 7, no. 8, p. 1009–1025.) Other authors: N. T. Zikeev and M. Rigby.

Contains 298 references (including 75 in supplement) on thermal and optical aspects of snow cover, stressing albedo, Russian literature, and (in the supplement) forest influence. Bibliographic sources and 15 major works are listed,

then follow references chronologically, 1871–1956. Subject and geographic indexes are given. *Copy seen:* DLC.

TIBERIO, GIORGIO, see Bencini, A., and others. Studi...ridurre il consumo tessutale di ossigeno... ratto ... trattamenti... ipotermia. 1955. No. 43950.

TIBERIO, GIORGIO, see also Damia, G., and others. Studi . . ridurre il consumo tessutale di ossigeno . . . 3 . . . temperatura . . . organi . . . 1955. No. 44537.

TIBERIO, GIORGIO, see also Parola, P., and others. Studi...ridurre il consumo tessutale ossigeno...2...cane... provocare l'ipotermia, 1955. No. 47259.

48393. TICKASOOK (Mrs. Emily Ivanoff Brown). Inupiut (Eskimo) homes. Unalakleet, the author. 1956. 15 p. 9 illus. Introd. by Prof. Ivar Skarland, Univ. of Alaska.

Describes snow houses (formerly rectangular, recently dome-shaped) used as temporary dwellings by Alaskan Eskimos, and still so used in winter in northern Alaska. Construction and use of sod houses, part underground, are also explained, as well as other features of the Eskimo way of life. The writer, member of a well-known Alaskan Eskimo family of Russian descent, teaches school at Unalakleet.

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48394. TIENSUU, LAURI SAMULI. Beiträge zur Kenntnis der Musciden (Dipt.) Finnlands, 1. (Suomen hyönteistieteellinen aikakauskirja, 1938. v. 4, no. 1, p. 21–33, 19 illus.) 16 refs. Text in German. Title tr.: Contributions to the knowledge of Muscidae (Dipt.) of Finland, 1.

Contains an annotated list of 22 species and two varieties of flies, of which eight and one variety are described as new, and others as new to the fauna of Finland. At least five new species are native to the Kuusamo region (Salla) and Finnish Lapland. This supplement to the author's review of Muscidae of Finland (No. 17671 of Arctic Bibliography) is in two parts, the second infra.

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48395. TIENSUU, LAURI SAMULI. Beiträge zur Kenntnis der Musciden (Dipt.) Finnlands, 2. (Suomen hyönteistieteellinen aikakauskirja, 1939. v. 5, no. 2, p. 241–55, 36 illus.) 14 refs. Text in German. *Title tr.:* Contributions to the knowledge of Muscidae (Dipt.) of Finland, 2.

Contains descriptions of seven new species, also critical notes and distributional data on 18 others. Alliopsis glacialis (Kemi Lappmark), Acroptena separata (Enontekiö Lappmark, and Abisko, Torne Lappmark) and Mydaea discimana (Swedish Lapland) are included.

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48396. TIENSUU, LAURI SAMULI. The *Erinna*-species of Finland; Dipt., Erinnidae. (Suomen hyönteistieteellinen aikakauskirja, 1935. v. 1, no. 3, p. 106– 107.)

Lists four species with localities; among them: E. compedita, E. cincta and E. junki occurring in the Kuusamo region and Finnish Lapland.

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48397. TIENSUU, LAURI SAMULI. Die Sarcophagiden (Dipt.) Finnlands. (Suomen hyönteistieteellinen aikakauskirja, 1939. v. 5, no. 4, p. 255-66, illus.) 9 refs. Text in German. *Title tr.:* Sarcophagidae (Dipt.) of Finland.

Contains a discussion of this family and its distribution in Finland, followed by a systematic list of 54 species, several from the North: Thyrsocnema kentejana lapponica n. ssp. (Ivalo in Inari Lappmark), four species native to Finnish Lapland and eight occurring in the Kuusamo region.

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TIKHAL'SKAÂ, V. V., see Veselkin, N. V., and others. O vliiânii sveta . . . 1934. No. 48729.

48398. TIKHOMIROV, BORIS ANA-TOL'EVICH, and V. S. SHTEPA. K kharakteristike lesnykh forpostov v nizov'fakh r. Leny. (Botanicheskii zhurnal, Aug. 1956. t. 41, no. 8, p. 1107-122. 11 illus.) 12 refs. Text in Russian. Title tr.: On characteristics of forest outposts in the lower Lena River basin.

Certain forest islands of Larix daurica, Alnus fruticosa and Salix species in the treeless tundra zone are described. They were observed on Tit-Ary Island, 60 km. from the Lena delta, also 10 km. north of it on the right bank of the Lena, in the summer of 1955. Forest elements, it is concluded, are moving actively northward in the Lena basin into the tundra zone. They occupy first the edges of swamps and tetragonal terraces. Alnus species move first and are followed by the

spruce, Larix daurica, and other woody species. This forward movement probably started about 400 years ago. Study of the relationship between forest and tundra is recommended for solution of the treeless tundra problem.

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48399. TIKHOMIROV, BORIS ANA-TOL'EVICH. Les i tundra. (Priroda, July 1956. god 45, no. 7, p. 31–38, 5 illus., text map.) 6 refs. Text in Russian. Title tr.: Forest and tundra.

"Agricultural development in tundra under severe climatic and permafrost conditions is discussed, together with the effects of forests on permafrost and soil. Contemporary northern limits of forests are considered to be the result of human and animal activity; there is a possibility of extending these limits several hundred km. northward. Tundra afforestation is important from the agricultural viewpoint because forests decrease wind speed, prevent the snow cover from compacting, and so benefit soil conditions and plant development. Air temperatures in forested areas are higher and the permafrost table is deeper, favoring microbiological activity and the formation of fertile ground strata."-SIPRE.

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48400. TIKHOMIROV, BORIS ANATOL'EVICH. Nekotorye osobennosti snezhnogo pokrova tundry i ego vlifanie na sushchestvovanie rastitel'nosti. (In: Akademifâ nauk SSSR. Institut geografii. Sneg i talye vody, 1956. p. 206–239, 8 illus., 6 tables.) 58 refs. Text in Russian. Title tr.: Certain features of snow cover and its effects on the existence of vegetation.

Study of ecological effects of snow cover upon the tundra vegetation based on observations in the Arctic, partly in the Lake Taymyr area during 1947-48 (table 1). The distribution and physical properties of snow are described and its regulatory influence on the height of plants noted. The corrasive influence of hard snow on plants is counterbalanced by its protective effect, when accumulated, against extreme low temperatures and strong winds. The melting snow lowers the level of permafrost in the spring and summer, and deposits some nutritive sediments. The snow- and moss-cover help the flowering plants to withstand the rigors of arctic winter and to continue their biochemical and physiological processes. This is partly due to formation of cavities around the plants under the snow which serve as natural hot-houses. With the advent of spring, the sun's rays reach these plants through the snow and the process of photosynthesis starts earlier. The suggestion is made of a regulatory function of the melting of snow, creating optimum conditions for the development of tundra vegetation.

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48401. TIKHOMIROV, BORIS ANATOL'EVICH. Ob okhrane lesov na ikh severnom predele i o zashchitnom lesorazvedenii v tundre. (Rastitel'nost' Krafnego Severa SSSR i ee osvoenie, 1956. vyp. 1, p. 5–15, illus., map.) 11 refs. Text in Russian. Title tr.: On the preservation of forests at their northern limit and problems of afforestation in tundra.

Due to the general warming trend in the Arctic, the northernmost forests tend to advance into tundras, but the young trees need to be protected against destruction by grazing reindeer and by man. The significance of the forest in the economy of northern areas and possibility of artificial afforestation of large areas of tundra, as evidenced by experiments carried out in Nar'yan-Mar, Salekhard, Berezovo, Khanty-Mansiysk, Igarka, Potapovo and Vorkuta, are discussed. The recent northern limit of agriculture in the U.S.S. R. is compared with that in 1939 and 1915 (map), also with the tree line of the present time, and of the post-glacial maximum.

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48402. TIKHOMIROV, BORIS ANA-TOL'EVICH. Paly i ikh vlifanie na estestvennuu kormovusu rastitel'nost' DVK. (Akademifa nauk SSSR. Dal'nevostochnyĭ filial. Trudy, 1935. t. 1, p. 159-70, illus., table, graph.) 29 Text in Russian. Summary in German. Title tr.: Burning and its effect on the natural food plants of the Soviet Far East.

Contains information on the widespread custom of burning the pastures in these regions and its ameliorating value; effect on forest fires and on tree vegetation; adverse effects on lichens and reindeer pasture. The soil absorbed more heat from the sun after the peat cover was destroyed; there was a decrease in moisture content, and the ashes acted as fertilizer. Permafrost. located usually about 50 cm. from the surface, retreated to 90-100 cm.

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48403. TIKHOMIROV, BORIS ANA-TOL'EVICH. Znachenie mokhovogo pokrova v zhizni rastenii Krainego Severa. (Botanicheskii zhurnal, Sept.— Oct. 1952. t. 37, no. 5, p. 629-38.) 64 refs. Text in Russian. *Title tr.:* The role of moss cover in plant life in far North. Previously listed as No. 26707.

Characteristics of moss vegetation are discussed to draw attention to its importance in tundra life. Hitherto its negative aspects have been stressed: the moss cover, a poor heat conductor, worsens thermal conditions in summer: its component plants of low nutritional value are a poor source of food for such tundra animals as reindeer, lemmings, some birds, etc. Mosses, however, have a positive role in vascular plant development in the tundra: they protect plants against temperature fluctuations in spring and stabilize ground moisture. Beneath the snow cover, the mosses create hollow spaces with temperature higher than outside, "natural hot-houses" favorable to vascular plant development. protective and assimilating activities of mosses are positive factors in the life of tundra vegetation, and require further study. Copy seen: DLC.

TIKHOMIROV, BORIS ANATOL'E-VICH, see also: Rastitel'nost' Krainego Severa SSSR. 1956. No. 47526.

48404. TIKHOMIROV, EVGENIĬ IVA-NOVICH, 1888— . Opticheskie fâvlenifâ v atmosfere, vyzyvaemye nalichiem v nef ledfânykh kristallov. (*In:* Vernberg, B. P., and others: Led . . . 1940. p. 339–46, illus., table, diagr.) 7 refs. Text in Russian. *Title tr.:* Optical phenomena in the atmosphere caused by the presence of ice crystals.

The appearance of multi-halo phenomena is mathematically analyzed on the basis of the accumulation of ice crystals in the atmosphere and the diffraction of sun light. Coordination and classification of the phenomena and their characteristics are incomplete due to limited data during earlier observations. The frequency and degree of independence of various halos are tabulated.

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48405. TIKHOMIROV, I. K. K izucheniû klimata i gidrologii Kol'skogo poluostrova. (In: Khibinskie apatity, 1933. t. 6, p. 224–30). Text in Russian. **Title tr.:** Studies of the climate and hydrology of the Kola Peninsula.

Reviews the work of the meteorological stations in the Khibiny Mts. and Lake Imandra and basin, particularly on effects of the sea on climatic variations and the prevailing, comparatively mild, climate. In mountain and valley regions, thermal conditions of microclimate were studied particularly on mountain slopes with (berry) vegetation. The Khibiny is considered a center of climatic change, and extension of meteorological observations important. Snow cover variations and snow drifts were also studied.

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48406. TIKHOMIROV, N. E. K kharakteristike rastitel'nosti i olen'ikh pastbishch Viakhtinskogo olenevodcheskogo rafona. (Geograficheskoe obshchestvo SSSR. Geograficheskii sbornik, 1956. vyp. 8, Rastitel'nyl pokrov Sakhalina, p. 88–109, diagr., tables, map.) Text in Russian. Title tr.: Vegetation and reindeer pastures of the Viakhtinskiy reindeerbreeding district.

Some 200 years ago, several Evenki (Tungus) families migrated from the mainland to Sakhalin Island and settled in the coastal region 51°-52° N. Due to the vast and excellent pastures, the community (now a state farm?) prospered and its reindeer belong to the best strains. From his geobotanical investigation in 1932 covering approx. 100,000 hectares, writer reports on the areal distribution of peat mosses, meadows and reindeer moss and lichen pastures; each of these components is characterized, and its plants listed (Russian and Latin names). Appended (p. 108-109) is a list of the reindeer forage plants; sketch map (p. 91) shows distribution of pastures.

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TIKHONOV, V. I., see Polutov, I. A., and others. Tralovyl promysel . . . 1956. No. 47395.

48407. TIKHONOVICH, N. N. O strukture Timanskogo krázha. (Moskovskoe obshchestvo ispytateleľ prirody. Bûlleten', 1946. god 117, otdel geol. t. 21, no. 6, p. 29-55, text map.) 28 refs. Text in Russian. Summary in English. Title tr.: The structure of the Timan Ridge.

Contains description of the geomorphic, historical and genetical development of this ridge (64° N. 52° E.). Early and contemporary views on the tectonics of the Timan are critically analyzed and a new scheme is offered in connection with the Urals and Russian Platform (47°-69° N. 21°-60° E.). The formation of the Timan Ridge began in the Hyperborean phase of Precambrian diastrophism. The contemporary Timan arose due to repeated movement during the Caledonian and Variscian cycles, during which the Pechora and Vym'-Mezen' depressions were formed. Further geological processes are described in detail, also the geomorphic and structural elements in the present geotectonic plan of the Timan.

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48408. TIMOFEEV, B. Novosibirskii turbogeneratornyi. (Sibirskie ogni, Jan.-Feb. 1956. god 35, no. 1, p. 10-12.) Text in Russian. *Title tr.:* Novosibirsk turbo-generator plant.

A 30,000 kwt. turbo-generator was sent from Novosibirsk to Vorkuta in the fall of 1955; and two others, 82,500 kwt. (descriptive data given), are under construction for the Irkutsk hydro-electric station.

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48409. TIMOFEEV, V. Kolonok. (Okhota i okhotnich'e khozíaľstvo, Nov. 1956, no. 11, p. 22–24, illus.) Text in Russian. *Title tr.:* Siberian weasel.

Describes the valuable fur-bearer, Mustela sibirica: habitat, food, reproduction, etc., methods of hunting and trapping, decrease of catch since 1932; trapping in Podkamennaya Tunguska River basin. Copy seen: DLC.

48410. TIMOFEEV, V. P. Opyt vyrashchivaniâ listvennitsy. Moskva, Goslesbumizdat, 1954. 56 p. illus., tables. Text in Russian. *Title tr.:* Experiments in cultivating larch.

Contains information on the Russian species of larch, their natural and afforested stands and economic value. Climatic and soil requirements of larch are outlined; the geographic origin of seeds and its effect on growth of the trees are indicated, with data on growth characteristics. Seed yields in larch cultures, utilization of natural seeding as means of propagation, raising larch in nurseries, and fertilization are dealt with. Consideration is given to density of planting, etc., to transplantation into the (ultimate) stand, types of cultures, and yields. Pests and diseases are noted.

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48411. TIMOFEEV, V. T. O godovom balanse vod Severnogo Ledovitogo okeana. (Priroda, July 1956. god 45, no. 7, p. 89–91, text map, 2 tables.) Text in Russian. *Title tr.*: Annual water balance of Arctic Ocean.

Contains statistical data on intake into the Arctic from the Atlantic and Pacific, river drainage and precipitation (approx. 192,400 km.³); also discharge from the Arctic Ocean chiefly by the East Greenland Current (approx. 161,000 km.³); the rest (31,400 km.³) apparently discharged through various channels of the Canadian Archipelago.

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48412. TISHKOVICH, A. V., and V. A. Razvedka torfianykh BODILOVSKII. mestorozhdenil dla zagotovki torfa na udobrenie i bolotno-podgotoviteľnye raboty. (Akademifa navuk BSSR, Minsk. Instytut torfa. Trudy, 1956. t. 5, p. 7-31, illus., tables, diagrs.) Text in Russian. Title tr.: Survey of peat deposits for preparation of peat for fertilizing purposes, and initial ground work.

Surveying procedure and drilling instruments for ground sampling are described in detail. Drainage system and equipment for trench construction and preparation of the surface layer are outlined with illus. Sequence of operations and characteristics of machinery used are tabulated.

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TITELBAUM, OLGA ADLER, see Bal'zak, S. S., and others. Economic geography . . U. S. S. R. . . . 1952. No. 43857.

48413. TITTMANN, OTTO HILGARD, 1850 . Our northern boundaries. (Washington Academy of Sciences. Journal, Feb. 4, 1914. v. 4, no. 3, p. 37–45.)

Contains historical notes on delimitation of the Alaska boundary and on remarking the boundary from the Pacific Ocean to Lake Superior, and from the St. Lawrence River to Grand Manan Channel. The author was for ten years a United States Commissioner on the Boundary Tribunal, and participated, in London 1903, in settlement of the dispute relating to that part of the Canada-Alaska boundary between Mt. St. Elias and the Portland Canal. A factual summary of the Alaskan boundary work is included.

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48414. TIULENEV, N. A. Povyshenie plodorodia torfianykh pochv putem

krotovania. (Akademia navuk BSSR, Minsk. Instytut meliaratsyi, vodna i balotna haspadarki. Trudy, t. 2, 1953, p. 40-50, tables.) Text in Russian. Title tr.: Increase of productivity of peat soils by means of underground tunnels.

An underground system of tunnels at 5 m. level in the peat bog generally increases the soil temperature 3 or 4° C., particularly important during an early frost and severe winter. An aerating system of tunnels is also important for microbiological processes and nitrofication. A tractor-drawn machine specially designed and constructed for digging two tunnels simultaneously, is described: it covers about ten hectares (two acres) in eight working hours. A dense system of aerating drainage usually increases field productivity from 13 to 40 percent.

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48415. TÑREMNOV, SERGEÏ NIKO-LAEVICH, 1905-. Sovremennye i mezhlednikovye torfûniki Evropelskol chasti SSSR i Zapadno-Sibirskol nizmennosti. (Akademiû nauk SSSR. Laboratoriû geologii uglû. Trudy, 1956. vyp. 5, Materialy vtorogo ugol'nogo geologicheskogo soveshchaniû, p. 49-57, diagrs. tables.) Text in Russian. Title tr.: Recent and interglacial peat bogs of the European U. S. S. R. and the West-Siberian lowland.

Contains description of Recent and fossil peat bogs based on their genetic and geomorphic classification. Interglacial peat layers of tundra and taiga zones in northwestern Siberia (Ob' River basin) are characterized (p. 53) and need for further investigation of this area is noted. Copy seen: DLC.

48416. TŪREMNOV, SERGEĬ NIKO-LAEVICH, 1905—. Torfıânye mestorozhdeniıâ i ikh razvedka. Izd. vtoroe perer. Moskva-Leningrad, Gos. energeticheskoe izd-vo, 1949. 464 p. illus., diagrs., tables, maps. 179 refs. Text in Russian. Title tr.: Peat deposits and their survey. Second rev. ed. Textbook approved by the Ministry of Higher Education for the peat institutes.

Revision of No. 17731, especially of the chapters on factors of peat formation, the vegetation cover, classification of peats, etc. (p. 18–180). Physical and chemical properties of peats and sapropels are given for additional types (p. 180– 213). The stratigraphy of the deposits is described (p. 213–306): structural, thermal decomposition characteristics. Sectional and geographic distribution of peat deposits is given for the world (p. 306-347) and for European and Asiatic U. S. S. R. (p. 347-93). Methods and equipment used in survey and mining are described (p. 393-446). Identification characteristics of different peat are given (p. 446-53). Copy seen: DLC.

48417. TJEDER, BO. Nätvingar: Neuroptera. (In: Sjöstedt, Y. Insektfaunan inom Abisko nationalpark, III, pub. in Svenska vetenskapsakademien. Skrifter i naturskyddsärenden. 1931, nr. 18, p. 42–46.) Text in Swedish. Title tr.: Lacewings; Neuroptera.

Seven species representing this insect order in the Swedish Arctic are listed, based on 36 specimens in the Royal Natural History Museum in Stockholm; dates, localities, and associated vegetation are indicated and variations from type specimens noted. Copy seen: DLC.

48418. TJØNNELAND, AUDFINN. A contribution to the zoogeography of Norwegian dragonflies. Bergen, J. Griegs boktr., 1952. 44 p. 2 illus., 26 text maps. (Bergen, Norway. Universitetet. Årbok, 1952. Naturvidenskabelig rekke, no. 15.) 39 refs. Summary in Norwegian.

Contains a systematic list, with distributional data, of 45 species collected chiefly in Sør-Trøndelag, Nord-Trøndelag and Nordland counties. Record of localities and distribution maps are supplied for 26 "true" Norwegian species, i. e. those that live and breed in Norway. The fauna is compared with those of other faunal regions, and is divided into: coast, semi-total, total and southern forms. Copy seen: DLC.

48419. TKACH, V. Komnatnoe solnfse. (Vokrug sveta, Feb. 1956, no. 2, p. 15, illus.) Text in Russian. *Title* tr.: Indoor sunshine.

Inhabitants of northern regions suffer from "light hunger" caused by the long winter night. Special lamps, "artificial suns," providing ultra-violet rays along with light are used in schools, kindergartens and hospitals at Dikson, Igarka and other arctic towns.

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48420. TØNSBERG, EINAR, 1900—. Ozone in high latitudes. (International Union of Geodesy and Geophysics. Association of Meteorology. Procès-verbaux des séances. Mémoires et discussions,

Brussels, 1951, pub. 1953. p. 312-14, 3

tables.

Brief discussion of ozone measurements made from 1937–1951 at Tromsø, northern Norway (69°40′ N. 18°58′ E.), by means of sunlight. Monthly mean values and their range of variation 1935–1949, are tabulated, and variations in annual ozone content 1940–1948, shown. Measurements in Svalbard were started in Sept. 1950. Monthly values Sept. 1950–Apr. 1951 are compared with the same period at Tromsø and found to differ only slightly.

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48421. TÖRNEBOHM, ALFRED ELIS, 1838–1911. Mikroskopiska bergartsstudier, IV; några grönstenar från Spetsbergen. (Geologiska föreningen, Stockholm. Förhandlingar, 1875. bd. 2, häfte 13, no. 27, p. 543–49.) Refs. in text. Text in Swedish. *Title tr.:* Microscopic bedrock studies, IV; some greenstones from Spitsbergen.

Dikes and beds of greenstone, diabase and dolerite, in five locations on Bellsund, Isfjorden, and Sorgfjorden, were sampled and analyzed microscopically. The contained minerals are described, as is the sequence of bedrock related to each

intrusive occurrence.

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48422. TÖRNEBOHM, ALFRED ELIS, 1838-1911. Några ord med anledning af tvisten rörande Gellivaramalmernas genesis. (Geologiska föreningen, Stockholm. Förhandlingar, 1891. bd. 13, häfte 1, no. 134, p. 27-33.) Refs. in text. Text in Swedish. *Title tr.:* Comments on the grounds of controversy concerning genesis of the Gällivare ores.

As contribution to determination of origin, the iron ore at Gällivare is compared with Kiruna and other Swedish ores. Relationships between eruptives and Kiruna ores are contrasted with basement complex envelopment of Gällivare ore. Complete, objective mapping of the complex may be the best approach to recognition of the source and manner of accumulation of the ore.

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48423. TÖRNEBOHM, ALFRED ELIS, 1838–1911. Om de geologiska svårigheterna kring riksgränsen, preliminärt meddelande. (Geologiska föreningen, Stockholm, Förhandlingar, 1885. bd. 7, häfte 8, no. 92, p. 501–510, 3 diagrs.) Refs in text. Text in Swedish. *Title*  tr.: On the geological difficulties along the border, preliminary report.

The quartzites and schists which comprise most of the bedrock in the Norprise most of the bedrock in the Norwegian-Swedish border mountain region are largely of Cambro-Silurian facies origin. Age interpretation of series members from place to place is difficult because of the international nature of the investigation. Unsolved problems are surveyed, with attention to problematic age interpretations and controversial members of the series that outcrop in northern Sweden. Copy seen: DGS.

**48424. TOKAREV, SERGE**. Siberia: grand vistas ahead. (News, Nov. 1, 1956, no. 21 (182), p. 16–17, illus., map.)

Includes mention of the Angara River hydro-electric stations with the planned capacity altogether of 10 million kwt. and an annual production of 70 billion kwt. h.; future industrial developments based in this and other projects are noted, among them Noril'sk.

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48425. TOKAREV, SERGEĬ ALEK-SANDROVICH, 1899-, and I. S. GURVICH. ĪĀkuty. (In: Akademifā nauk SSSR. Institut ėtnografii. Narody Sibiri, 1956. p. 267–328, illus., col. plates.) 42 refs. Text in Russian. Title tr.: Yakuts.

This population (235,926 by the 1926 census, breakdowns given) is distributed mainly in the middle Lena basin, lower Aldan and Vilyuy; also near the Olekma estuary and along the Yana, Indigirka, Kolyma, Olenek and Anabar Rivers. The history, racial origin, culture and economy (19th century) of this stockraising (cattle and horses) people in the south, fishing and hunting in the north, are outlined. Their transportation, housing, clothing and food are described. Sanitary conditions (poor) and disease (skin diseases, trachoma, tuberculosis, arctic hysteria), social organization, family and marriage customs, religious beliefs, folklore, etc. are discussed as features of traditional Yakut life. The autonomous republic of Yakutia was created in 1922, and advances of the native population under the Soviet regime are described with selected statistics for the 1930-1955 period: industry and river transport, urban construction and settlement in the far North, development of agriculture (mechanization, irrigation, agrotechnical advances, livestock, etc.), fur trade (hunting and fur-animal farming), fishing.

Data are given on collectivization, present-day living conditions of the rural population, and on developments in education, social and health services, etc. Achievements of present-day Yakuts in literature, science and the creative arts are cited in conclusion.

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TOKAREV, SERGEĬ ALEK-48426. SANDROVICH, 1899- . Kul'turnye svíazi fakutskogo i russkogo narodov do 1917 goda. (In: Akademifa nauk. Akutskil filial. Institut fazyka, literatury i istorii. Vedushchafa rol' russkogo 1955. p. 83-92.) Text in Title tr.: Cultural ties be-Russian. tween the Yakuts and the Russians before 1917. Pub. in preliminary form, in the newspaper Sofsialisticheskaia Akutiia on Mar. 15, 1947.

Describes Russian colonial policy, stressing its favorable aspects: lack of racial discrimination, abolition of slavery, introduction of tsarist law and order, inclusion of Yakutia into the Russian economic sphere, introduction of agriculture, development of fur trade and mineral resources. The importance of christianization (missionary schools), the creation of a written Yakut language and compilation of the first Yakut grammer (1858) are discussed. The influence of Russian classics on local literature is indicated and the enrichment of the Yakut language by words of Russian origin (over 2,400 by 1920) pointed out. Expeditions of the 17th-19th century which originated in Yakutsk are enumerated. Copy seen: DLC.

48427. TOKAREV, SERGEĬ ALEK-SANDROVICH, 1899— . Vklad russkikh uchenykh v mirovuſū ėtnografiū. (Akademiſā nauk SSSR. Institut ėtnografii. Trudy, 1956. nov. seriſā, t. 30. Oeherki istorii russkoſ ėtnografii, fol'kloristiki i antropologii, vyp, 1, p. 5–29.) Refs. Text in Russian. Title tr.: Contributions of Russian scientists to world ethnography.

Mentions Russian ethnographers and explorers of Kamchatka (p. 6) and Alaska (p. 10) and the educational work done currently among the peoples of the North (p. 12). Copy seen: DLC.

48428. TOKAREV, V. A. O seïsmichnosti Arktiki. (Akademiña nauk SSSR. Doklady, Feb. 11, 1956. t. 106, no. 5, p. 904-906.) 10 refs. Text in Russian. Title tr.: The seismicity of the Arctic. English translation by E. R. Hope pub.

by Defence Research Board of Canada,

Directorate of Scientific Information Service, Ottawa, Mar. 1957, its: T242 R (3 p.) Copy at CaMAI.

A general review of seismic activity in the Arctic is presented. Earlier Russian views that a single seismically active zone exists extending from Iceland to southern Alaska is refuted. Actually, several zones may be identified, although of markedly different activity. The most active regions (strongest shocks) are the Greenland Sea, southern Alaska, and Kamchatka. Multiple-shock earthquakes are most frequent in southern Alaska, Jan Mayen, and Iceland.

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48429. TOKAREV, V. A. Raboty Kandalakshskogo mineralogo-geokhimicheskogo otráda Kol'skoľ kompleksnoľ ekspeditšii Akademii Nauk SSSR 1933 g. (In: Khibinskie apatity, 1933. t. 6, p. 216–18, map.) Text in Russian. Title tr.: Work of the Kandalaksha mineralogical and geochemical party of the Kola Complex Expedition of the Academy of Sciences U. S. S. R. 1933.

Exploration of the Por'ya Bay - Cape Turiy region (southern Kola Peninsula east of the Umba River) is outlined; deposits are noted; they are of no practical value unless a gold component is found.

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48430. TOKIN, B. P. K. Ber i sovremenna nauka; k 80-leti no dna smerti akademika K. M. Bera i k izdani ego sochinen na russkom nayke. (Leningrad. Universitet. Vestnik, 1956. god 11, no. 21, p. 5-17, illus.) 6 refs. Text in Russian. Title tr.: K. Baer and our contemporary science; in memory of the 80th anniversary of the death of Academician K. E. Baer, occasioned by publication of his works in Russian language.

Ideological appraisal of the scientific views of the embryologist and explorer Karl Ernst Baer (in Russian: Karl Maksimovich Bér), 1792–1876, who spent 64 years of his life in Russia. The importance of his expedition to Novaya Zemlya in 1837 is noted.

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48431. TOKMAKOV, A. S. Novye sposoby plasticheskogo vosstanovlenifa defektov konchika nosa i nozdreť, voznikshikh v rezuľtate otmorozhenifa 3 stepeni. (Vestnik khirurgii, June 1955. t. 75, no. 5, p. 119–20, illus.) Text in Russian. Title tr.: New methods of plastic restoration of defects at the tip of

the nose and nostrils resulting from frostbite of the 3d degree.

Contains brief description of two methods tried in 22 out of 48 cases of nose injuries due to cold.

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48432. TOLBOOM, WANDA NEILL. Arctic bride. Toronto, Ryerson Press, 1956. 256 p. illus., ports.

Contains narrative of author's trip to Port Harrison on the Nascopie in 1946, to marry the Hudson's Bay Company post manager at Povungnituk, northern Quebec (59°47' N. 77°19' W.). Daily life at the post is described where the Tolbooms, and later a clerk, were the only white residents; also journeys by Peterhead boat and sledge, the Eskimos, etc. A chapter from the book is reproduced in the Beaver, 1956, Outfit 287, p. 36-41. Reviewed by Moira Dunbar in Canadian geographical journal, Jan. 1957, v. 54, no. 1, p. xiv. Copy seen: DNG.

48433. TOLBOOM, WANDA NEILL. People of the snow, Eskimos of arctic Canada. Maps by Donald Pitcher. New York, Coward-McCann, 1956. 96 p. illus.

Describes (for children), Eskimos primarily in the Canadian Eastern Arctic: the environment, probable migration from Asia, the snow house, summer tent, family life, hunting and trapping, clothing, food, travel with dog sledge, education, recreation, crafts, religion; contact with white civilization and recently, military personnel working in the North. Includes excellent photographs.

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48434. TOLF, ROB. Eriophorumtorfens utbredning i Sverige. (Svenska mosskulturföreningen, Jönköping. Tidskrift, Jan. 1901, nr. 1, p. 38–40.) Text in Swedish. *Title tr.*: Distribution of *Eriophorum* peat in Sweden.

The farther north the peat, the less is the fibrous content. Eriophorum vaginatum plays an unimportant role in peat development in Norrland and Lapland.

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48435. TOLF, ROB. Norrlands torfmossar. (Svenska mosskulturföreningen, Jönköping. Tidskrift, July 1901, nr. 4, p. 139-51.) Text in Swedish. *Title tr.*: Norrland's peat bogs.

Kvarnmyren at Malenjarka, Kvikkjokk, is a typical brown moss (*Hypnaceae*) bog; Nemyren in Arvidsjaur and Fogdemyren at Glommerträsk are sedge bogs; and Fetmyren in Arvidsjaur is a grass type, with *Molinia caerulea* and some development of *Scirpus caespilosus* and *Eriophorum alpinum*. Norrlands bogs are largely in the moss stage, and are smooth-surfaced rather than hummocky. Possibilities as culture soil are good.

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48436. TOLMACHEV, ALEKSANDR INNOKENT'EVICH, 1903—. Geobotanicheskoe rafonirovanie ostrova Sakhaina. Moskva-Leningrad, Izd-vo Akadnauk SSSR, 1955. 76 p. 9 illus, map. (Akademifa nauk SSSR. Sakhalinskif filial.) 15 refs. Text in Russian. Title tr.: The geobotanical subdivision of Sakhalin Island.

Contains data on geography, topography, hydrographic net, climatic factors and soils of Sakhalin, followed by discussion of zonal differentiation of the vegetation into four principal subzones: (1) deciduous forests; (2) dark coniferous woods with predominance of Picea ajanensis (central Sakhalin); (3) dark coniferous woods with predominance of Abies sachalinensis (southeastern section); and (4) dark coniferous woods with admixture of broad-leaved trees (southeastern section). Economic evaluation of the vegetation and phytogeographic characteristics of 14 geobotanical regions into which four principal subzones are divided by the author (see map), are given.

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48437. TOLMACHEV, ALEKSANDR INNOKENT'EVICH, 1903-. K izucheniû arkticheskof flory SSSR. (Botanicheskii zhurnal, June 1956. t. 41, no. 6, p. 783-96.) Text in Russian. Title tr.: On the study of arctic flora of the U. S. S. R.

Study of the flora and vegetation of northern U. S. S. R. by Russian and foreign botanists is reviewed historically, as introduction to an announcement of an "Arctic flora of the U. S. S. R." in preparation under editorship of A. I. Tolmachev. Limits of the arctic floristic region are discussed and a scheme offered of arctic zoning (16 sub-regions briefly described). The Engler plant system has been chosen as most practical and best known. The species concept and the extent of lower taxonomic units, such as subspecies, varieties and forms are also discussed. It is proposed to publish Arctic flora in three volumes, over a five-year (1956-60) period, under the general direction of the Botanical Institute of the Academy of Sciences U. S. S. R. Copy seen: DLC.

TOLSTIKHIN, NESTOR IVANOVICH, 1896—, see Obruchev, S. V. Spravochnik puteshestvennika . . . 1949–50. No. 47123.

48438. TOLSTIKOV, EVGENIĬ IVA-NOVICH. Vas ozhidaût nailuchshie vozmozhnosti. (Klub, Nov. 1956. god 6, no. 11, p. 7-8, port.) Text in Russian. Title tr.: The very best opportunities await you.

Autobiographical sketch, describing his work as meteorologist on Chukotka, and that of two of his colleagues at drift station North Pole-4: the physician-meteorologist, Nikolal Romanovich Paleev, and hydrologist, Mikhail Vasil'evich Izvekov.

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TOLSTIKOV, EVGENII IVANOVICH, see Treshnikov, A. F., and E. I. Tolstikov. Dreffufishchie stanfsii . . . 1956. No. 48454.

48439. TOLSTOV, A. N. Sledy drevnego proizrastanifà derev'ev. (Priroda. Oct. 1956. god 45, no. 10, p. 102–104, 3 illus, text map.) 3 refs. Text in Russian. Title tr.: Traces of the ancient woody vegetation.

Notes find, in summer 1952, of an ancient larch (Larix daurica) stump and roots in the tundra near the village of Chokurdakh, in the Indigirka valley. In the past, larch evidently grew considerably north of present tree line (70°37′ N.). The climate in that region did not become warmer.

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48440. TOMIRDIARO, S. V. Opredelenie glubiny protaivaniâ nasypel v usloviîâkh Kraînego Severa. (Avtomobil'nye dorogi, Sept. 1956. god 19, no. 9 (167), p. 18–21, diagr., graph.) Text in Russian. *Title tr.:* Determining the thawing depth of road fills in the far North.

The problem of permafrost thawing of under fills is mathematically analyzed and the depth of heat penetration is calculated on a formula developed by D. V. Redozubov at the Vorkuta Permafrost Station. The use of overall coefficient "n" of heat penetration to frozen ground in this formula involves difficulties due to its appreciable variation for different ground (from 1.2 to 3.5). The problem may be simplified by experimental determination of thermal and physical

characteristics separately for three (upper, middle, lower) layers of the fill adjacent to permafrost. The computation of average values of thermal factors for each layer separately and combining these averages produces a smaller error than dealing with the entire depth at one step. Final solution of the Redozubov equation is further simplified by graphical representation of left and right components of the equation separately. The intersection of two representative lines gives the solution for the depth of thawing. Copy seen: DLC.

TONER, G. C., see Logier, E. B. S., and G. C. Toner. Check-list . . . amphibians and reptiles of Canada and Alaska. 1955. No. 46437.

48441. TONEY, G. R. Meteorology of the Greenland ice cap. (*In:* U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, *pub.* 1954, p. 395–407, illus., tables.)

Temperatures on the icecap generally range between 0° F. and 32° F. This is particularly true of the area to the interior beyond Mile 120. Melting was experienced at Mile 120 at the end of July. Light to fresh winds coming from a southeasterly direction predominate on the west slope of the icecap. Winds may rise to 40 mi./hr. The high degree of cloudiness recorded can be taken as typical of the summer season at least for the zone of the icecap bordering the sea and the exposed land areas. The moderating influence of the clouds on the temperature of the air is noted. Little precipitation is encountered, although snow blown by the wind frequently amounts to several inches in one storm. Visibility limitations due to blowing snow and/or fog are customary. Either or both may last up to five days at a time. Photographs show various cloud forma-Copy seen: CaMAI. tions.

TONG, J. L., see Eiseman, B., and others. Prolonged hypothermia . . . pneumococcal peritonitis. 1956. No. 44749.

48442. TOPCHIEV, ALEKSANDR VA-SIL'EVICH. Osnovnye itogi nauchnol defatel'nosti Akademii nauk SSSR za 1955 god. (Akademifa nauk SSSR. Vestnik, Mar. 1956. god 26, no. 3, p. 16–36.) Text in Russian. *Title tr.:* Main results of the scientific activities of the Academy of Sciences of the U. S. S. R. in 1955. Report delivered to annual general meeting of the Academy on Feb. 2, 1956 by its Chief Learned Secretary. Studies of permafrost problems, exploration of the Kuril-Kamchatka Trench and the Antarctic expedition are mentioned.

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48443. TORGERSEN, EINAR. Marinen i Ishavet: om lag 200 miner og sprenglegemer ble uskadeliggjort i nordlige farvann. Opprenskningen i 1947-49. (Norsk polar-tidende: Polarårboken 1953, p. 50, 52.) Text in Norwegian. Title tr.: The navy in the Arctic Ocean: about 200 mines and explosive charges were rendered harmless in northern waters; clearing operations in 1947-49.

Three Norwegian naval expeditions to Spitsbergen and Jan Mayen are reported, and details given on areas searched and mines destroyed. *Copy seen:* CaMAI.

4844. TORGOVKINA, E. E. Termovegetatsionnafa ustanovka. (Akademífá nauk SSSR. Ákutskil filial, Yakutsk. Institut biologii, Trudy, 1955. vyp. 1, p. 85–88, illus.) Ref. Text in Russian. Title tr.: Thermovegetative plant.

Contains account of earlier methods for the study on the effects of cold upon plant roots, followed by description of author's installation utilizing permafrost for large-scale root-cooling experiments. Brine serves as mediating fluid.

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TORLONTANO, G., see Gigante, D., and G. Torlontano. Sul comportamento . . . temperatura del midollo osseo nell'immobilizzazione . . . accessi convulsivi. 1956. No. 45108.

TORLONTANO, G., see also Gigante, D., and G. Torlontano. Sulla temperatura del midollo osseo . . . 1956. No. 45109.

TORRES, FELICIANO, see Gazzarrini, A., and F. Torres. Il tasso glicemico... 1955. No. 45047.

TÓTH, JÓSZEF, see Harkányi, I., and others. Die experimentelle Entblutung des Herzens . . . 1956. No. 45440.

48445. TOVBIN, A. A. Promysel donnykh ryb zapadnoevropelskimi stranami v Severnoï Atlantike. (Rybnoe khozaistvo, June 1956. god 32, no. 6, p. 58-60, tables.) 2 refs. Text in Russian. Title tr.: The bottom-fish industry of the West-European countries in the North Atlantic.

Contains information and data for the year 1953 on catches according to country of origin of vessels, species and fishing area. The latter includes: Arctic Ocean, Norwegian Sea, Barents Sea, Bjørnøya-Spitsbergen area, Greenland and Newfoundland waters.

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48446. TOVBIN, A. A. Shire razvivat' tralovoe rybolovstvo v severozapadnykh raĭonakh Barentsova moria. (Rybnoe khoziālstvo, Sept. 1956. god 32, no. 9, p. 41–44, tables.) Text in Russian. Title tr.: Develop the trawl fisheries in the northwestern sectors of the Barents Sea.

Contains estimates of potential fish resources of this area, especially bottom fish, and information on British and world catches in the North Atlantic. Russian catches in the northwestern Barents Sea, (tabulated) are discussed, also ways of increasing them. Developing the fleet and its efficiency will ultimately increase productivity.

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48447. TOWNE, W. W., and others. Evaluation of sewage lagoons under various climatic conditions. (Municipal utilities, Nov. 1956. v. 94, no. 11, p. 54+, illus., diagrs., tables.) Other authors: A. F. Bartsch, and W. H. Davis.

Design and operating criteria for lagoons in northern climatic regions during the winter and winter-spring transition periods are discussed on the basis of field experiments. Laboratory analyses of samples taken are tabulated for different ice and fluid depths. A relatively high rate in the percent of reduction of biochemical oxygen demand was noted even in ice-covered lagoons.

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48448. TOWNES, HENRY KEITH, 1913—. The nearctic species of Netelia (Paniscus of authors) and a revision of the genera of Neteliini; Hymenoptera, Ichneumonidae. (Lloydia, Dec. 1938. v. 1, no. 1–4, p. 168–231, 8 plates.)

Contains notes on prior status of classification, genotypes, examination of genitalia and relationships of this hymenopterous genus; followed by a systematic treatment, with keys, and descriptions of 79 species; one subgenus, 53 species and two subspecies are described as new. N. (Paropheltes) alaskensis from Kukak Bay and N. (Parabatus) deceptor from Fort Wrangell, Alaska (p. 220-221) are included.

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48449. TOYOKAWA, KOHEI, and D. H. HOLLANDER. Variation in sensitivity of Escherichia coli to freezing damage during the growth cycle. (Society for Experimental Biology and Medicine. Proceedings, July 1956. v. 92, no. 3, p. 499–500, illus., table.) 14 refs.

Account of observations on this bacterium submitted to repeated freezing and thawing. Its sensitivity to freezing damage was found to vary during the growth cycle with greatest susceptibility during the period of logarythmic growth.

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48450. TOZER, EDWARD TIMOTHY, 1928— Geological reconnaissance, Prince Patrick, Eglinton, and western Melville Islands, Arctic Archipelago, Northwest Territories. Ottawa, Queen's Printer, 1956. 32 p. fold. map, sections, 3 tables. (Canada. Geological Survey. Paper 55–5.) 32 refs.

Describes the geology of parts of southeastern Prince Patrick, northern Eglinton and western Melville Islands, within the area 75°-77° N. 116°-121° W., based on summer 1954 field work. A brief history of exploration is given; also notes on accessibility and travel, vegetation and wildlife, climate, geomorphology, and glaciation. No evidence exists that continental glaciers covered the islands, and no physiographic features suggesting emergence were seen. The consolidated sediments, ranging from Lower Ordovician to Lower Cretaceous(?) are described. They are overlain by Tertiary and/or Quaternary unconsolidated sands and Structural geology is summarized. Coal occurs in three formations of Devonian and Jurassic-Cretaceous Analyses of five samples are proages. Copy seen: DGS. vided.

48451. TRÄGÅRDH, IVAR OSKAR HERMAN, 1878— Acariden aus dem Sarekgebirge. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 4, Zoologie, Lfg. 4, pub. 1910. p. 375–586, 362 illus.) 45 refs. Text in German. Title tr.: Acarida from the Sarek Mountains.

Geography and zoning of the Sarek Mts. (67°27′ N. 17°40′ E. in northern Sweden) are outlined and brief data given on habitats of various localities investigated by the author in the summers of 1903 and 1907. A systematic list is presented of 88 species and varieties of mites, of which two genera, 18 species and

nine varieties are new; keys, descriptions (males, females, nymphae), critical notes and data on habitats also on local and total distribution are included. Vertical distribution and frequency of various aearid families in the natural zones of the Sarek Mts. are given (tables p. 556–72) and this fauna is compared with those of other arctic regions and the Alps; acarid variation in the region is discussed.

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48452. TRAINER, FRANK WILSON, 1921—. Ground water in glacial deposits in the Matanuska valley agricultural area, Alaska. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 232–33.)

Permeable stream-laid gravel and sand is best water-bearing material. Glacial till is relatively impermeable. In many gravel deposits at land surface, water occurs under water-table conditions. Artesian water is present where saturated gravel lies beneath till cover. Loess and sand are important in their effect on infiltration from the land surface.

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TRAINER, FRANK WILSON, 1921-, see also Woodruff, G. A. Report . . . land conditions . . . Susitna River . . . . 1955. No. 49003.

TREADWELL, AARON LOUIS, 1866–1947, see Hartman, O. Polychaetous annelids . . . Treadwell . . . 1956. No. 45463.

48453. TREATIES. Zur Abgrenzung der Einflussgebiete im Hohen Norden. (Europa Archiv, Jan. 1948. Jahrg. 3, Folge 1, p. 1109-1110.) Text in German. Title tr.: Delimiting the areas of influence in the High North.

Outlines the treaty of Feb. 9, 1920, granting "full and unrestricted sover-eighty to Norway over the Spitsbergen group, comprising all islands between 10° and 35° E. of Greenwich and between 74° and 81° N. Navigation, fish and wild-life management, travel, trade, wireless and meteorological stations, mining rights and regulations, etc., are included in the treaty. The contracting powers were the United States, Great Britain, Denmark, France, Italy, Japan, Norway, the Netherlands and Sweden.

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TREMBLAY, R., see Lillie, D. F., and R. Tremblay. Leaching . . . uranium . . . Port Radium . . . 1956. No. 46357. TREMBLAY, R., see also McNiven, J. G. and others. Milling Port Radium. 1956. No. 46553.

48454. TRESHNIKOV, ALEKSEĬ FEDOROVICH, and E. I. TOLSTIKOV. Dreffuñshchie stantŝii v tšentral'not Arktike "SevernyI polits-3" i "SevernyI polits-4." Moskva, Izd-vo "Znanie," 1956. 32 p. illus., tables, map. (Vsesofiznoe obshchestvo po rasprostranenifu politicheskikh i nauchnykh znanil, ser. 3, no. 24.) Text in Russian. Title tr.: Drifting stations in the Central Arctic North Pole-3 and North Pole-4.

Activities of the two stations are presented for the period Apr. 1954-Apr. Personnel, setting up the station, building camp, living conditions, summer and winter in tents and prefabricated houses, are reported; supply by airlift, helicopter service, radio communication, visiting guests and scientists are described: the scientific work is outlined and main results are given of the meteorological. aerological, oceanographic, biological and geophysical investigations. Difficulties and dangers caused by melting of ice in summer and by ice pressures and cracks in winter are stressed. Tables of mean, max, and min, monthly air temperatures and of water temperatures to 4.120 m. depth as observed by North Pole-3, are given (p. 13, 18). In its 376-day drift that station traveled 2,200 km. (830 km. net distance); it was abandoned on Apr. 20, 1955 when approx. 300 km. off Concurrently. the Greenland coast. North Pole-4 drifted 2.600 km. (530 km. net distance). The drift of both stations is briefly analyzed. This account is based on popular lectures delivered by the authors, who headed these two stations. It is preceded by a summary of the first four drifting stations (p. 3-6), and a statement on the setting-up of North Pole-5 in 1955 and of North Pole-6 in 1956, also on relief of North Pole-4 and North Pole-5. Map shows drift of the ice-breaker Sedov and of North-Pole-1-4. Copy seen: DLC.

48455. TRESHNIKOV, ALEKSEI FEDOROVICH. God na l'dine; iz dnevnika poliarnika. Moskva, Izd-vo "Morskoi transport," 1956. 94 p. illus., map. Text in Russian. *Title tr.:* One year on the ice; from the diary of a polar worker.

Popular account of drifting station North Pole-3, 1954-1955, by its chief, with excerpts of his diary; recounts the flight over the Arctic Basin, search for a suitable ice floe, setting up the station, and organization of the camp. The arctic summer with the daily work routine, course of the drift, and scientific observations are described. With the fall and winter season, ice cracking and pressures disturbed the camp and forced a transfer of the station to a new site. The coming of spring and evacuation of the station are described. Set up Apr. 10 at 86° N. 175°45′ W., between Vrangelya Island and the North Pole, on Aug. 25, it drifted across the 90° W. meridian 30 km. from the North Pole; when evacuated on Apr. 20, 1955, the station was only 300 km. from Greenland coast. Its equipment was brought home or transferred to the new drift station, North Pole-5. During its 376-day drift, North Pole-3 traveled 2,000+ km. (net distance: 820+ km.). The work of its scientific personnel is described. Oceanographic and meteorological results are summarized. Illus. by E. P. IAtsun, station photographer.

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48456. TRESHNIKOV, ALEKSEĬ FEDOROVICH. The Soviet drifting station SP-3, 1954-55. (Polar record, Sept. 1956. v. 8, no. 54, p. 22-29, text

map.)

Account of the station as described in No. 48455 condensed from lecture delivered at the Scott Polar Research Institute, Cambridge, Eng., on Apr. 21, 1956, by Treshnikov, deputy director of the Arctic Institute, Leningrad. (12) are listed; establishment of the station, program of observations, camp life in summer and winter are described. Part of the camp was moved because of cracks in the floe; and the station was relieved Apr. 20 1955, after a drift of 2000+ km., passing within 30 km. of the Pole. Scientific accomplishments are outlined. Copy seen: DLC.

48457. TRESSLER, WILLIS LAT-TANNER, 1903— . Impressions of the Antarctic as compared with the Arctic. [Washington, D. C., U. S. Hydrographic Office.], May 1955. 10 p. Typescript.

During July-Sept. 1954, the author traveled on the icebreaker Burton Island through the Beaufort Sea and southwestern Canadian Arctic Islands waters, reaching 75° N. at Bridport Inlet, Melville Island. From Dec. 1954 to Apr. 1955 he took part in the cruise of the icebreaker Atka to the Antarctic. General

impressions of land and water areas, ice conditions, weather, and animal life are presented. **Copy seen:** DN-HO.

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48458. TRICART, JEAN. Le développement des hydro-centrales en U. R. S. S. (Information géographique, Sept.-Oct. 1956. année 20, no. 4, p. 146-48, text map.) Ref. Text in French. *Title tr.:* The development of hydro-centrals in U. S. S. R.

Review article, based on Soviet sources, mentions construction of hydro-electric plants in the upper Ob and Yenisey systems as first in a series to harness water power of these rivers and of the Lena and Amur. Plant under construction on the Niva, to serve industries of the Murmansk region is also noted. Map shows volume of major Russian rivers and location of plants.

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48459. TRICART, JEAN. Étude expérimentale du problème de la gélivation. (Biuletyn peryglacjalny, 1956. nr. 4, p. 285-318, 10 illus., graphs, 2 tables.) 8 refs. Text in French. Title tr.: Experimental study of the problem of gelivation.

A laboratory study of the physical process by which rocks are broken down into loose debris in periglacial regions. Attempt was made to approximate two types of cold climates: Icelandic type of cold maritime climate with many smallrange temperature fluctuations; Siberian cold continental type with longer-lasting fluctuations of much greater range. Methods are described. Gelivation was found to be predominately influenced by environment, rocks in the Icelandic-type climate breaking down more slowly than those under Siberian conditions. Gelivation varied greatly according to the texture of the rocks, their mechanical properties and the landforms of the region. The terms macrogelivation and microgelivation are discussed also the formation of slopes and evolution of relief. Copy seen: DLC.

48460. TRICART, JEAN. Premiers résultats d'expériences de solifluxion périglaciaire. (Académie des Sciences, Paris. Comptes rendus, Jan. 11, 1954. t. 258, no. 2, p. 259-61.) Text in French. Title tr.: First results of experiences of periglacial solifluction.

Describes laboratory experiments of producing solifluction by submitting two 16° slopes to 50 cycles of freezing to

-30° C. and thawing to 10° C. in a humid atmosphere. Comparison is made with the natural phenomenon. The surfaces of the slopes assumed concave profiles with stones on the upper parts of the slopes moving downwards. Greater movement occurred in the lower layers than at the surface, and the loess and silt took on a porous and spongy appearance with a network of cracks apparently related to polygon formation.

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48461. TRICART, JEAN. Premiers résultats d'expériences sur le comportement des roches vis-à-vis du gel. (In: International Geographical Union. Eighth General Assembly and Seventeenth International Congress, Washington, D. C., Aug. 8–15, 1952. Proceedings, pub. 1956? p. 220–26, 2 graphs, table.) 4 refs. Text in French. Title tr.: First results of experiments on the behavior of rocks with respect to freezing.

Describes study and results reported in detail in his Étude expérimentale du problème de la gélivation, q. v.

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48462. TRICART, JEAN. Le système d'érosion périglaciaire. (L'information géographique, Nov.—Dec. 1951. année 15, no. 5, p. 187–93, diagrs.) 4 refs. Text in French. *Title tr.*: The system of periglacial erosion.

The system of periglacial erosion is examined according to the main principles of climatic geomorphology. The factors responsible and associated processes are discussed, including: freeze-thaw cycles, solifluction, particle segregation by freezing, run-off, wind, and soil structure. The resulting relief forms are described, and the geographical distribution of periglacial phenomena is considered.

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48463. TRIFONOV, AN. Ledorazbivach s atomna instalatsia. (Transportno delo, 1956. god 8, no. 1, p. 94–95, illus.) Text in Bulgarian. *Title tr.:* Atomic-powered ice-breaker.

Oullines successful developments in various branches of the physical sciences in the U. S. S. R., with emphasis on peaceful application of atomic energy in ice-breakers. By direction of the 20th Congress of KPSS (Communist Party of the Soviet Union), atomic energy is to be applied during the sixth five-year plan in the 2½ million-kw. electric power plant installations, to provide power for general

transportation and ice-breakers among others. Advantages of atomic fuel for use in the Arctic is discussed in comparison with coal and fuel oil. According to the proposed design, the 16,000 ton ice-breaker is to have a 44,000 hp. atomic power installation. Copy seen: DLC.

48464. TRIFONOV, I. V fâkutskom kolkhoze. (Kolkhoznoe proizvodstvo, Jan. 1956. god 16, no. 1, p. 45.) Text in Russian. *Title tr:* In a collective farm of Yakutia.

Notes successes achieved by the collective farm Pravda in the Olekminsk District of Yakutia. It has 1687 hectares of arable land, 3000 h. of meadows and 3750 h. of forest. The farmers' income and the catch of fur animals have risen.

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48465. TRIKHMANENKO, V. Izverzhenie vulkana Bezymannogo. (Ogonëk, Mar. 1956. god 34, no. 10, p. 29, illus.) Text in Russian. Title tr. Eruption of Bezymyannyy Volcano.

Subterranean shocks of the Kamchatka volcano previously regarded as extinct, were recorded at the end of 1955; and soon followed by an eruption which covered the streets of the village of Klyuchi with a layer of ash 2-3 cm. thick. Airplane photograph (Jan. 26) shows the volcano crater emitting clouds of vapor.

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48466. TRIKHMANENKO, V. Odno iz chudes Kamchatki. (Ogonëk, June 1956. god 34, no. 26, p. 32, illus.) Text in Russian. *Title tr:* One of Kamchatka's wonders.

Note on hot springs at the village of Paratunka (52°59′ N. 112° E.) on the river of that name. Scenic Kornilovskoye Ozero and Utinoye Ozero, famous for their medicinal muds, are mentioned.

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48467. TRILESSKIĬ, S. V. Tipy malykh mostov difâ osobykh usloviĭ (Stroitel'stvo dorog, Apr. 1947. god 10, no. 4, p. 14–15, diagrs.) Text in Russian. *Title tr*: Types of small bridges for special conditions.

Foundations for small and mediumlength bridges are described for areas with deep soil freezing (3 m.) and soil of low bearing capacity (2 kg./sq. cm.). Various types of construction and end supports are discussed for 4, 6, and 9 m. spans. Construction costs may be reduced by 25–35 percent if advantages of local rock materials are considered in the selection of a suitable type of construction.

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48468. TRIMBORN, HERMANN. Leonhard Adam. (Zeitschrift für Ethnologie, 1956. Bd. 81, Heft 2, p. 311–14.) Text in German.

Reviews the work (including that on North American Indians) of the curator of the ethnographic collection of the University of Melbourne, on the occasion of his 65th birthday. A list of his publications is appended.

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TRIVEDI, J. C., see Satoskar, R. S., and J. C. Trivedi. The effect . . . digitalis on cats under hypothermia. 1956. No. 47801.

**48469.** TROELS-SMITH, J. Nulevende rensdyrjaegere. (Fra Nationalmuseets arbejdsmark 1956, p. 23–40, illus.) Text in Danish. *Title tr:* Present-day caribou hunters.

Contains an account of the life of the Eskimo hunters in the southeastern Barren Grounds (approx. 60°-65° N.) of Canada, based on material in the National Museum in Copenhagen. Details are given on the climate, flora and fauna of the region and on dwellings, tools, hunting methods, etc., of the people (400-500 individuals). The principal game is the caribou, but musk ox, hare, ptarmigan, wolverine, fox, ermine and wolf are also hunted and fishing (salmon) plays an important part. Notes on social life and organization and on religion are included. Copy seen: DLC.

48470. TROELSEN, JOHANNES C., 1913—. The Cambrian of North Greenland and Ellesmere Island. (In: International Geological Congress. 20th, Mexico City, 1956. El sistema Cámbrico, su paleogeografía y el problema de su base: symposium. tomo 1, p. 71–90, 2 text maps, tables.) 23 refs.

Unmetamorphosed sediments below Eo-Cambrian tillite are designated Upper Precambrian (term "Eo-Cambrian" is used, as by C. Poulsen in No. 47438, in sense of early Cambrian). Cambrian and Eo-Cambrian (?) deposits occur in the Thule region and north coast of Inglefield Land in North Greenland, also on Bache (south coast) and Knud Peninsulas on Ellesmere. Stratigraphic succession is described. In Peary Land to the east, Eo-Cambrian formations and older un-

metamorphosed sediments occupy large areas, while fossiliferous Cambrian is exposed only in narrow belts. The Late Precambrian, Eo-Cambrian, and Cambrian (?) of Kronprins Christians Land and inner Danmarks Fjord regions, northeast Greenland are also discussed. Copy seen: DGS

48471. TROELSEN, JOHANNES C., 1913-, and others. Groenland: Greenland. Paris, Centre National de la Recherche Scientifique, 1956. 116 ptext map. (International Geological Congress. 20th, Mexico City, 1956. Lexique stratigraphique international. v. 1, Europe, fasc. 1a.) 166 refs. Other authors: T. Birkelund, Cr. Poulsen, E. Nielsen, and B. E. Koch.

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An alphabetical listing of formations in Greenland, giving source of original description and name of each formation, its composition, age, type locality, geographic distribution, diagnostic fossil; additional literature. Geologic map accompanies text. An extensive bibliography is appended. Copy seen: DGS.

48472. TROITSKAIA, M. N. K metodike opredelenia modula deformasii gruntov zemlanogo polotna. (In: Moskva. Avtomobil'no-dorozhnyl institut. Opredelenie modula deformasii gruntov, 1955. p. 59–68, graphs.) Text in Russian. Title tr.: Method of determination of modulus of deformation of soil in dirt roads.

Design theory of non-rigid road surfaces is discussed on the basis of three basic characteristics related to the modulus of deformation of all road surface materials of different layers, and soils of dirt roads, in addition to critical deflection of surfaces and factors corresponding to repeated loads. Variation of "relative deformation" (ration of deformation to diameter of loaded area) with load, determined in the laboratory and field tests, is expressed by a set of curves and analyzed. Soils of various densities and various degrees of wetness were subjected to the same test. The modulus of deformation of frozen and thawed soils was tested separately using a 30° conical weight and was compared with the standard test. Copy seen: DLC.

48473. TROITSKAIA, VALERIIA ALEKSEEVNA. Dva kolebatel'nykh rezhima élektromagnitnogo polia zemli i ikh sutochnyl khod po mirovomu vremeni. (Akademia nauk SSSR. Doklady, Nov.

11, 1953. t. 93, no. 2, p. 261-64, graphs.) 6 refs. Text in Russian. Translated for Canadian Defence Research Board, no. T174R. Title tr.: Two types of oscillation of the terrestrial electromagnetic field and their daily variations on world time.

The short periodical oscillations of the terrestrial electromagnetic field can be more conveniently studied with records on earth-currents, because the ratio of amplitudes of the electric field to the magnetic one is rapidly increased with reduction of the oscillation periods. Two types of oscillation are generally considered: type I consisting of continuous oscillation during one or more hours with 10 to 40 sec. periodic changes; and type II consisting of short trains of damping oscillations on a background of small steady oscillations (fig. 1). Observations were made simultaneously at widely scattered stations (Irkutsk, Shatsk, Lovozero, Alma-Ata, Sakhalin, etc.). Statistical analysis was applied only to type I oscillation records (fig. 3). Regularity in the appearance and in the time and character of changes and also in hourly distribution of maxima lead to conclusion that the induction of one or another variation in the terrestrial electromagnetic field is determined by the orientation of the magnetic axis of the earth in respect to the sun. Copy seen: DLC.

48474. TROITSKAÑ, VALERIÑA ALE-KSEEVNA. Korotkoperiodieheskie vozmushcheniña élektromagnitnogo polía zemli. (Akademiña nauk SSSR. Doklady, 11 July 1953, t. 91, no. 2, p. 241–44, graphs, diagr., map.) 4 refs. Text in Russian. *Title tr.*: Short, periodical disturbances in the terrestrial electromagnetic field.

Disturbances are usually studied from records of magnetic field oscillation. Periodical disturbances, however, are more distinctly shown in records of earth currents, and for shorter periods of disturbance, the larger amplitudes of earth currents are registered. Both types of the oscillation are shown (fig. 1) and statistically analyzed, together with data from four stations in central Asia. The analysis shows that: (1) trains of oscillation appeared regularly every day independently of disturbances in the terrestrial electromagnetic field; (2) regular occurrences were in the period 12-24 hr. world (Greenwich) time; (3) maximum frequency was usually observed at 18-19 hr.; and (4) trains of oscillations were simultaneously recorded at all four stations. Additional studies conducted during 1951-52 in central Russia, Caucasus, Lovozero, Irkutsk and in central Asia showed the same simultaneous character. The regularity of these disturbances lead to the conclusion that they are timed with the zenith position of the sun over northern magnetic pole. The charged corpuscular stream emitted by the sun focused on the earth's magnetic pole probably is the cause of these regular disturbances.

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48475. TROITSKAIA, VALERIIA ALE-KSEEVNA. Mezhdunarodnyl geofizicheskif god. (Oktabr', July 1956. god 33, no. 7, p. 165-69.) Text in Russian. *Title tr.*: The International Geophysical Year.

Summarizes the history, purpose, tasks, organization and participation of the U. S. S. R. Over a hundred Soviet scientific organizations and large number of industrial concerns are involved in the planned scientific research. Seismic investigations in arctic and antarctic areas and special scientific stations to be set up are mentioned. Copy seen: DLC.

48476. TROLL, CARL, 1899—. Die Klimatypen an der Schneegrenze. (In: International Quaternary Association. 4th Conference, Rome, 1953. Actes, pub. 1956. pt. II, p. 820–30, 8 diagrs.) 12 refs. Text in German. Title tr.: Climate types on the snow line.

Discusses the concept and definition of the snow line and its place in the various climatic classifications (Köppen, Thornthwaite, etc.). Polar and subpolar snow line climates are considered (p. 821-24) on the basis of data from Danmarkshavn (East Greenland), McMurdo Sound (Antarctica), Sagastyr' (Lena River mouth, Yakut A. S. S. R.), and several stations in northern Sweden. Copy seen: DGS.

48477. TROSHINA, V. P., and V. A-SHTURM. Defstvie nizkikh temperatur na izolirovannye epitelial'nye tkani belo'i myshi i lifagushki. (Bûlleten' eksperimental'nof biologii i medisiny, July 1956. t. 42, no. 7, p. 63–66, illus., table.) 10 refs. Text in Russian. Title tr.: The effect of low temperatures upon isolated epithelial tissues of the white mouse and frog.

Account of observations on such tissues exposed to temperatures of —3.5° to —20° C. and thawed at room temperature. Lowering the temperature below

0° C. shortened the life of the tissues, as compared with controls kept at room temperatures.

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48478. TROSTĀNETSKAĀ, M. N K izucheniū ėtiologii infektsionnykh zabolevanit zatīsev-belīākov v Ākutii. (Moskva. Moskovskit gosudarstvennyt pedagogicheskit institut im. V. I. Lenina. Uchenye zapiski, 1956. t. 96, vyp. 6, p. 161-71, illus. tables.) 3 refs. Text in Russian. Titte tr.: Study of etiology of infectious diseases in snowshoe hares of Yakutia.

Account of pathologic-anatomical and bacteriological investigations of hares killed or found dead in six districts of Yakutia. Morphological, pathogenic, biochemical and culture studies indicate that pathogens isolated from internal organs are related to Corynebacterium pseudotuberculosis. These proved highly pathogenic to mice and rabbits and are assumed to be the main cause of death in the snowshoe hare. Copy seen: DLC.

48479. TRUE, FREDERICK WILLIAM, 1858-1914. Contributions to the natural history of the cetaceans. A review of the family Delphinidae. Washington, D. C., U. S. Govt. Print. Off., 1889. 191 p. illus., 47 plates. (U. S. National Museum. Bulletin, no. 36.) 8 refs.

Contains a systematic index to the subfam. Delphininae, and a review of 63 dolphin species (p. 13-149) with synonyms, critical notes and tables of measurements of the exterior and skull of various specimens. In the synopsis of the species (p. 151-88), an artificial key to the genera is given and a systematic list of 63 species with brief descriptions, data on teeth, measurements of the exterior and skull, also data on habitat and distribution. At least five species are registered in Greenland waters and in "arctic and subarctic seas."

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48480. TRUNOV, O. Chem opasno nazemnoe obledenenie samoleta. (Grazhdanskafa aviafsifa, Jan. 1956. god 13, no. 1, p. 31–33, figs.) Text in Russian. Title tr.: Icing hazards ground airplanes.

Discusses types, meteorological conditions and causes of icing of aircraft on the ground; dangers in take-off are stressed and preventive measures recommended.

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48481. TRUPAK, N. G. Zamorazhivanie gornykh porod pri prokhozhdenii stvolov.

Moskva, Ugletekhizdat, 1954. 895 p. illus., diagrs. 50 refs. Text in Russian. *Title tr.*: The freezing of side rocks in mine shafts.

The use in eastern Siberia and the Yenisey taiga of natural freezing of the river bottom and of underground layers carrying water in mining shafts is described with illus. (p. 5-8). Freezing of the water prevents flooding of the shaft in the gold and other mines. The artificial freezing of water-bearing layers was adopted in coal mining, in the central, also northern (Pechora) regions of the U.S.S.R. Thermal processes are described; computations of freezing under different conditions are given. Practical methods are explained for overcoming specific difficulties in construction of cooling arrangements and for sustaining required temperature. Copy seen: DLC.

TRUTER, MARY R., see Stone, H. H., and others. The effect of lowered body temperature on the cerebral hemodynamics . . . 1956. No. 48216.

TRUTNEVA, K. F., see Sadchikova, E. I., and K. F. Trutneva. Gidro-geologicheskie . . . Khibinogorska. 1933. No. 47742.

TRYCZYŃSKI, EMIL W., see Wexler, B. C., and E. W. Tryczyński. Cartilaginous deposits induced by freezing... 1966. No. 48928.

48482. TRYON, ROLLA MILTON, 1916— . A revision of the genus *Pteridium*. (Rhodora, Jan.—Feb. 1941. v. 43, no. 505–506, p. 1–31, plates 650–52; p. 37–67, plate 653, 12 text maps.) *Pub. also as:* Contrib. from the Gray Herbarium of Harvard University, no. 134.

Contains account of the brackens, a systematic treatment with key, and descriptions of eleven; among them are P. aquilinum var. pubescens from Alaska and Sitka and P. a. var. latiusculum native to Kamchatka.

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48483. TRYSELIUS, OLOF. A short comparison between the Finnish and the Swedish snow samplers. [Stockholm, 1940.] 7 p. diagr., illus., tables. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, serien uppsatser, no. 34.) 4 refs.

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The two instruments for snow surveying are described and test results compared. The Swedish design utilizes a spring balance for water determination while the Finnish design utilizes a beam balance. They yield comparable results although the Swedish sampler, a modification of the Mt. Rose sampler, is better suited for deep, hard-crusted snow.

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TSENIN, S. S., see Petrov, V. I., and S. S. TSenin. Razvitie ėkonomiki vostochnykh raionov. . . transportnoe osvoenie. 1956. No. 47330.

**TSEPLÂEV, V. P.,** ed., see U. S. S. R. Glavnoe upravlenie geodezii i kartografii. Karta lesov SSSR . . . 1955. No. 48512.

48484. TSIANG, CHARLES. Greenland's east coast weather stations; an auditor's visit. (United Nations review, Feb. 1956. v. 2, no. 8, p. 10-13, illus.,

Contains a brief illustrated account of the author's visit to Kap Tobin, Aputiteq, and Angmagssalik, in July 1955, while serving as auditor for the International Civil Aviation Organization. Unloading operations at Kap Tobin are described. The location of weather stations on the east coast of Greenland is mapped. The trip was made aboard the Danish ship Jopeter on one of her annual voyages to these stations.

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TSIVOL'KA, AVGUST KARLO-48485. 1805?/1807-1839, and S. A. VICH, MOISEEV. Plavanie praporshchikov korpusa flotskikh shturmanov TŠivol'ki i Moiseeva k Novol Zemlíe v 1838 i 1839 godakh. (U. S. S. R. Gidrograficheskil departament. Zapiski, chast' 3, 1845, p. 21-155, fold. map.) Text in Russian. Title tr.: Voyage of Ensigns TSivol'ka and Moiseev, Corps of Naval Navigators, to Novaya Zemlya in the years 1838 and 1839.

Source materials on an expedition organized by the Hydrographic Dept. of the Marine Ministry. It was to complete the work of Pakhtusov (q. v.), who in 1832-35, had succeeded in surveying a part of the eastern coast of Novaya Zemlya, hitherto unknown. On June 15, 1838, the 29-man party headed by TSivol'ka left Arkhangel'sk for the west coast on two vessels, the Novaya Zemlya and Shpitsbergen, with part of their equipment and a prefabricated hut sent by a hunter's boat. After the expedition reached Melkaya Bay (73°57' N. 54°26' E.) and prepared winter camp, TSivol'ka made an attempt to sail northward, but was turned back at Cape Prokof'eva (74°13′ N.55°10′ E.). During the wintering, in March 1839, he died, and the command passed to S. A. Moiseev. Moiseev made a summer survey of the west coast as far north as Mashigina Bay, while his assistants, Rogachev and Kerner, explored Mollera Bay (72°22′ N. 52°30′ E.), Kostin Shar Strait and vicinity down to Cape Chernyy (70°50′ N. 53°25′ E.). On Sept. 8, 1839, Moiseev on the Shpisbergen returned to Arkhangel'sk; the Novaya Zemlya under command of Rogachev was wrecked en route in Lumbovskiy Bay (67°47′ N. 40°25′ E.) at the entrance to the White Sea, and its crew rescued by hunters.

crew rescued by hunters.

The materials comprise

The materials comprise: a summary of previous expeditions' results and instructions for TSivol'ka; text of Moiseev's diary from departure till his return to Arkhangel'sk, June 15, 1838—Sept. 8, 1839, (p. 42–121). Results of the expedition are summarized and a hydrographic description of Novaya Zemlya is given by the editor, M. F. Reineke? (p. 122–55), on the basis of the journals of TSivol'ka, Moiseev and others. Two fold. maps (at end of vol.) show the expedition's route and delineate the coast of the northern island. Moiseev's diary with appendices is reprinted in No. 47229.

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48486. TŠIVOL'KA, AVGUST KARLO-VICH, 1805?/1807-1839. Plavanie praporshchika TŠivol'ki s akademikom Bėrom k Novol Zemlie v 1837 godu. (U. S. S. R. Gidrograficheskil departament. Zapiski, chast' 3, 1845, p. 1-20.) Text in Russian. Title tr.: Voyage of Ensign TŠivol'ka with Academician Baer

to Novaya Zemlya in 1837.

Account of the first Novaya Zemlya expedition of the Academy of Sciences. Headed by K. E. Baer, the party left Arkhangel'sk June 17, 1837 on the Krotov and Sv. Eliset, encountered adverse winds and reached Novaya Zemlya on July 19. Botanical and zoological explorations were made in the coastal regions from Matochkin Shar to Kostin Shar straits, and on Sept. 11 the party returned home. This account is based on the notes of TSivol'ka, who was responsible for navigation and the hydrographic observations, and on quotations from reports of Baer, a noted naturalist (cf. No. 913-915 of Arctic Bibliography). Copy seen: DLC.

**48487. TSUNTS, MIKHAIL.** Sud'ba Padunskogo poroga. (Novyĭ mir, July 1956. god 32, no. 7, p. 276–77.) 2 refs.

Text in Russian. *Title tr.:* The fate of the Padunskiy Rapids.

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The Angara River, bound by its geographical situation to become the main waterway from Western to Eastern Siberia, is obstructed by the Padunskiy Rapids, at approx. 56°17′ N. 101°50′ E. New hydroelectric installations are to raise the water level, "drown" the rapids, and thus solve the navigability problem.

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48488. TŠVETAEVA, N. P., and A. A. MOZGOVOI. K izucheniū patogeneza pri protostrongileze i nekotorykh drugikh legochnykh zabolevaniūkh zaitsev ĪĀkutii. (Moskva. Moskovskiī gosudarstvennyī pedagogicheskiī institut im. V. I. Lenina. Uchenye zapiski, 1956. t. 96, vyp. 6, p. 155-60, illus.) 5 refs. Text in Russian. Title tr.: Study of pathogenesis of protostrongylosis and some other lung diseases of Yakut hares.

A histopathological study of lungs from young and adult hares with mixed infections of *Protostrongylus kamenskyi* and *P. terminalis*. Descriptions are given on the intensity of invasion, stage of parasite, tissue reaction. In adult animals, a great number of microfilariae was observed in the blood vessels of the lung.

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TSYKIN, E. N., see Akademiîâ nauk SSSR. Institut geografii. Sneg i talye vody. 1956. No. 43523.

48489. TSYNKOV, M. Ėkonomicheskafa ėffektivnost' otraslei zhivotnovodstva. (Sofsialisticheskoe sel'skoe khozfatstvo, 1956. god 27, no. 1, p.31-43, tables.) Text in Russian. *Title tr.:* Economic effectiveness of separate branches in stock breeding.

Work and income are compared for several types of animal-breeding kolkhozes in various parts of the U.S.S.R. Data are included (p. 35) on cattle-, hog- and sheep-raising in northern kolkhozes in Arkhangel'sk Province.

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48490. TŠYPLAKOV, K. Nad Okhotskim morem; iz zapisnoI knizhki pilota. (Grazhdanskafa aviatšifa, Aug. 1956. god 13, no. 8, p. 17.) Text in Russian. Title tr.: Over the Sea of Okhotsk; from a pilot's note-book.

Describes flights over Kamchatka coastal waters on fisheries reconnaissance; locating herring shoals in Bering Sea off Cape Il'pinskiy (59°45′ N. 164°50′ E.) and at Cape Tavatumskiy (61°45′ N. 158°05′ E.) in Gizhiginskaya Bay. \*\*Copy seen: DLC.

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48491. TSYRUL'NIK, TA. V. Ryt'e transhe' v zimnikh uslovifakh s progrevom grunta infrakrasnymi luchami. (Élektricheskie stantsii, Aug. 1956. god 27, no. 8, p. 47, illus., graph.) Text in Russian. *Title tr.:* Trench excavation in winter with preheating of the ground by infrared rays.

A new method of thawing frozen ground is described. Infra-red lamps in series or special heating coils were successfully used. The heating device, consuming 9 kw., produced temperatures of about 750° C. around the coils. Placed 7 cm. from the surface, it increased the temperature to 15° C. to a depth of 25 cm. in three hours; and if the thawed ground is removed every 20 minutes, the total depth thawed is 90 cm. Air temperature was about -30° C. Copy seen: DLC.

48492. TUCKER, JOHN T. Mobility problems of the Navy in the Arctic. (In: U. S. Office of Ordnance Research. Interservice Vehicle Mobility Symposium, 18–20 Apr. 1955. v. 2, Papers, p. 102–109,

7 illus. diagr., map.)

Limitations imposed on arctic overland operations by climate and weather are described on the basis of operations 1944-1954 at Naval Petroleum Reserve No. 4, Point Barrow, Northern Alaska; and the need for special equipment and new procedures is discussed. Many of the mobility problems are due to mechanical failures but during the transition seasons of the year, overland transport into the interior of the Arctic ceases. The U.S. Navy is building a tundra truck for use in the Arctic on a year-round basis. The vehicle measures  $36\frac{1}{2} \times 12\frac{3}{4} \times 1$ 9 ft. and weighs 47,500 lb. with a design payload of 7.5 tons. Power will be supplied to two 60-in. rubber-belted tracks by the gas turbines. This vehicle and other equipment are illustrated (photos). A composite ice chart for the Northern Hemisphere is presented, showing mean limits of the polar pack, sea and land ice occasionally penetrable by icebreakers, area navigable with icebreaker assistance, and permafrost. Copy seen: DLC.

48493. TUGOLUKOV, V. A. Poezdka k okhotskim ėvenkam i ėvenam. (Sovetskaia ėtnografiia, 1956, no. 3, p. 142–46.) 4 refs. Text in Russian. *Title tr.:* A trip to the Okhotsk Evenki and Eveny. Describes author's summer-fall 1955 trip, sponsored by the Commission on Problems of the North and organized by the Academy of Sciences U. S. S. R. Institute of Ethnology (also noted ibid. 1956, no. 2, p. 133). He traveled to the Tuguro-Chuminsk, Ayano-Maysk, Okhotsk rayons of Khabarovskiy Kray to study the economy, culture and customs of the Evenki (Tungus) and Eveny (Lamuts). Data for 1954-1955 on population, collective farms, reindeer herds, etc., are given. Marriage customs, schools, housing, ethnic origin, Yakut influence in language and administration are discussed. Agricultural and fishing kolkhozes in Udskoye, Algazeya, Totta, Urak and Okhotsk were visited, those in the talga mainly Tungus, and on the coast predominantly Russian. Insufficient housing is criticized; increase of reindeer herding is suggested.

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48494. TUMEL', VAŤŠLAV FELIKSO-VICH, 1905— Igarskoe opytnoe podzemel'e v vechnomerzloĭ tolshche. Moskva, Izd-vo Akademii nauk SSSR, 1945. 80 p. illus. diagrs. (Akademiiā nauk SSSR. Institut merzlotovedeniiā.) 12 refs. Text in Russian. *Titte tr:* Experimental caves in the permafrost at Igarka. Previously listed as No. 18079.

The construction of two experimental caves and results of investigations carried out are described, and data are tabulated and graphed. The caves, 22 cu. m. and 468 cu. m. in volume, were constructed during 1936-1942 under the supervision of the Institute of Permafrostology. Permafrost in the region reaches depths of 30-35 m.; the active layer is 1.8-2.2 m. thick; and the ice content in the frozen ground averages about 38 percent. Annual soil temperatures at a depth of 0.5 m. during the period 1937-1941 ranged from 0.7° to 1.0° C. under natural surface cover and from -3.7° to -7.6° C. under a bare ground surface, while at a depth of 10 m. average soil temperatures were -0.3° to -0.6° C. The smaller cave was constructed for research on architectural problems and the study of frozen ground as a building material. The experiments showed that the problem of permafrost degradation in the vicinity of buildings can be solved easily, even in an area where the mean annual permafrost temperature is about 0.5° C. An artificial ice cover 5-10 cm. thick on the cave walls was sufficient to prevent desiccation of the frozen ground, and evaporation from the ice cover was an additional source of cooling. Such caves were used for food storage at Anadyr', Ust'-Port on the Yenisey, Kyusyur on the Lena, Khatanga, etc. Special tests were conducted on storage of books and manuscripts, particularly on the effect of moisture.

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48495. TUOMIKOSKI, RISTO KALEVI, 1911-. Bemerkungen über die Clusiiden (Dipt.) Finnlands. (Suomen hyönteistieteellinen aikakauskirja, 1936. v. 2, no. 4, p. 182-86, 2 illus.) 6 refs. Text in German. Title tr.: Remarks on the Clusiidae (Dipt.) of Finland.

Contains an annotated list of ten species with distributional data and some critical notes. Acarlophthalmus nigrinus (Imandra Lappmark) and Clusiodes geomyzina and C. apicalis (Finnish and Russian Lapland), are included.

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48496. TUOMIKOSKI, RISTO KALEVI, 1911-. Mitteilungen über die Empididen (Dipt.) Finnlands, I; die Gattung Trichina Meig. (Suomen hyönteistieteellinen aikakauskirja, 1935. v. 1, no. 3, p. 95-101, 11 illus.) Text in German. Title tr.: Notes on Empididae (Dipt.) of Finland, I; the genus Trichina Meig.

Contains critical notes and distributional data on seven species of dance flies, one described as new. Among them, T. fuscipes, T. bilobata, and T. elongata are recorded in the Kuusamo region and in Finnish and Russian Lapland.

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48497. TUOMIKOSKI, RISTO KALEVI, 1911-. Mitteilungen über die Empididen (Dipt.) Finnlands, IV; die Gattung Ocydromia Meig. (Suomen hyönteistieteellinen aikakauskirja, 1937. v. 3, no. 1, p. 17-20, 4 illus.) Text in German. Title tr.: Notes on Empididae (Dipt.) of Finland, IV; the genus Ocydromia Meig.

Contains a comparative study of two closely related species: O. glabricula and O. melanopleura. The first is native to the Kuusamo region, Finnish and Russian Lapland. Other parts of this study except pt. 1 (supra) do not contain arctic material.

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48498. TUOMIKOSKI, RISTO KA-LEVI, 1911- . Zur Kenntnis der paläarktischen Arten der Gattung Bicellaria Macq.; Dipt., Empididae. (Suomen hyönteistieteellinen aikakauskirja, 1955. v. 21, no. 2, p. 65–77, illus.) 6 refs. Text in German. Title tr.: A contribution to the knowledge of palaearctic species of the genus Bicellaria Macq.; Dipt., Empididae.

Contains discussion of the genus, a key to the species, and descriptions of 13, three new; four are from the North: B. simplicipes from Kola Peninsula and Arkhangel'sk, B. pilosa from Kola Peninsula, B. stackelbergi n. sp., found in Kanin Peninsula, Kamchatka, Yakutsk, and B. spuria in northern Scandinavia.

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TURISTFORENINGEN FOR DAN-MARK, see Denmark. Udenrigsministeriet. Greenland. 1956? No. 44601.

TURNER, M., see Clerk, N. A., and others. Modifications . . . électro-dermogramme . . sudation et la température cutanée . . . chlorpromazine. 1956. No. 44389.

48499. TUROV, IVAN. Los'. (Okhota i okhotnich'e khozîaistvo, Jan. 1956, no. 1, p. 22-26, illus.) Text in Russian. Title tr.: Elk.

Sketches the biology, habits and economic importance of elks; their geographical distribution in U. S. S. R. and occurrence in Alaska are noted; their damage to growing forests is discussed; they are used for transportation in the Pechora preserve. Copy seen: DLC.

48500. TURPAEVA, E. P. Pantopoda roda Heteronymphon iz severo-zapadno' chasti Tikhogo Okeana. (Moskovskoe obshchestvo ispytatelel prirody. Bûlleten', Mar.—Apr. 1956. Nov. ser., otd. biol. t. 61, vyp. 2, p. 67–72, 3 illus.) 6 refs. Text in Russian. Summary in English. Title tr.: Pantopoda of the genus Heteronymphon from the northwestern part of the Pacific Ocean.

Contains a key to the species of this genus, followed by descriptions of H. profundum (Kuril-Kamchatka trench), H. bioculatum n. sp. (Okhotsk and Bering Seas), and H. birsteini (southern Okhotsk Sea). They were collected during the expeditions of the Institute of Oceanology of the Academy of Sciences U. S. S. R. in 1949-54.

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TUTWILER, T. S., see Fischl, F. B., and others. Cold starting with V. I. improved . . . oils. 1956. No. 44904.

48501. TUXEN S. L. The first record of Canadian Protura; with systematic notes on Acerentulus. (Entomologiske meddelelser, Nov. 10, 1955. bd. 27, hefte 3, p. 113–28, 18 illus.) 10 refs.

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Contains descriptions of two new arachnids, A. canadensis and A. condei n. spp. both from Richardson Mts., northern Yukon Territory. Three species of the genus Acerentulus (A. americanus, A. insignis and A. cephalotes) are proposed to be deleted from the catalog.

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TWEED, R. D., see Woodhead, N., and R. D. Tweed. An algal collection . . . Spitsbergen. 1956. No. 49002.

48502. TWIDALE, C. R. Vallons de gélivation dans le centre du Labrador. (Revue de géomorphologie dynamique, Jan.—Feb. 1956. année 7, no. 1–2, p. 17–23, 2 text maps, diagrs.) 18 refs. Text in French. Summary in English. Title tr.: Frost-riven valleys in the center of Labrador.

On the western scarp of Dolly Ridge, a NNW-SSE trending ridge near Knob Lake, there occur several valleys of alcove-like morphology. They are never occupied by running water and their development must therefore be attributed to some other agency. It is suggested that these valleys are comparable with the "ravins de gélivation" reported by Boyé from Greenland (see No. 20857): they are believed to be formed essentially by the widening of major structural lines by gelifraction. The weathered material is evacuated by solifluxion and there is some evidence to suggest that these solifluxional flows may be capable of erosion. Copy seen: DGS.

48503. TWOMEY, ARTHUR CORNE-LIUS, 1908- . The Mackenzie delta; reporting on the Matthew T. Mellon Foundation West Arctic Expedition last summer. (Carnegie magazine, Feb. 1956. v. 30, no. 2, p. 41-45, 2 illus., text map.)

Popular account of author's expedition in summer 1955, during which he completed ornithological survey of the delta started in 1942 (Arctic Bibliography, No. 18117) and discovered nesting grounds of the tule goose in Loon Channel.

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**48504. TYRTIKOV, A. P.** O vlifanii rastitel'nosti na mnogoletnemerzlufu podpochvu. (*In:* Akademifa nauk SSSR.

Institut merzlotovedenifa. Materialy k osnovam uchenifa o merzlykh zonakh zemnol kory, 1956. vyp. 3, p. 85–108, tables.) 29 refs. Text in Russian. Title tr.: Influence of vegetation on permafrost in the subsoil.

Vegetation effects on soil moisture and temperature and the depth of the active layer are analyzed on the basis of observations in Yakutia and other Siberian regions in 1950-1952 as well as earlier investigations. Data on summer soil temperature and depth of soil thawing under various kinds of vegetation are given in 13 tables. The thermal effects of the vegetation cover on permafrost ground vary not only with the character of the vegetation, the thickness and density of the cover, but also with general climatic and topographic conditions. Disappearance of the vegetation cover leads to melting of ground ice and formation of large lakes, marshes, lowlands, ravines, cave-ins, craters and similar thermokarstic forms of relief.

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48505. UCHITEL', I. A., and L. D. KRYMSKII. Vlifanie gipotermii na allergicheskie protsessy. (Éksperimental'nafa khirurgifa, 1956. god 1, no. 3, p. 19-24, illus.) 6 refs. Text in Russian. Summary in English. Title tr.: The influence of hypothermia on allergic processes.

Account of investigation on the effects of lowered body temperature on the Arthus and Schwartzman effects in rabbits. The experiments showed a marked degree of inhibition of these allergic reactions during hypothermia; it is suggested that the hypophysis-adrenal system is instrumental in this inhibition.

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48506. UDACHIN, S. Zemel'nye fondy SSSR i ikh ispol'zovanie. (Sofsialisticheskoe sel'skoe khozfalstvo, 1956. god 27, no. 1, p. 63–72, tables.) Text in Russian. *Title tr.:* Land resources of the U. S. S. R. and their utilization.

Discusses data on land distribution, ownership and use, including northern provinces of the U. S. S. R. Of approx. 2,228 million hectares of land, 850 million are in farms and 700 million under forest; 37.6 percent of the land belongs to kolkhozes, 6.2 percent to sovkhozes, 52.6 percent to the state; kolkhozes average 6.3 thousand h. in size: in eastern Siberia, in the Far East 46.5

thousand, but in northern European U. S. S. R. only 4.0 thousand h.

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UDALL, ROBERT HOVEY, 1916—, see Eskridge, P. S., and R. H. Udall. The effect of cold starvation upon carbohydrate reserves in *Peromyscus* . . . 1955. No. 44809.

48507. UDINTSEV, G. B. O rel'efe kurilo-Kamchatskoi vpadiny. (Akademiña nauk SSSR. Sovet po seismologii. Bûlleten', 1956. no. 2, Sbornik statet po fsunami, p. 35–42.) Text in Russian. Title tr.: The contour of the Kuril-

Kamchatka depression.

The arch of the Pacific Ocean deeps, including the Kuril Trench, is analyzed in relation to a seismic belt. The appearance of tsunamis, or seismic ocean waves, has been connected over a long period with disturbances in this belt and with the arch of deeps. Of the tsunamis observed, 86 percent have been in the Pacific Ocean, 8 percent in the Atlantic; they have been related, by geological investigations, with zones of great depths, and underwater volcanic eruption, or rupture and massive rock slide on steep slopes. The Kuril Trench was surveyed by the Academy of Sciences' research vessel Vitiaz' in 1953 and a maximum depth of 10,382 m. located 180 km. south of the Friz (or Vries) Strait, which gradually diminished to 6,500 m. toward the Commander Islands. This zone, of high seismic activity, is being studied for correlation of specific activity with appearance of tsunami.

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48508. UDINTSEV, G. B. Proiskhozhdenie rel'efa dna Okhotskogo moria. (Akademia nauk SSSR. Institut okeanologii. Trudy, 1955. t. 13, p. 5–15, maps.) 11 refs. Text in Russian. Title tr.: The origin of the bottom relief of the Okhotsk Sea.

Account of investigation based on bathymetric and bottom surveys. Macroand mesorelief are considered, and the factors which have formed them are analyzed. Regressions and transgressions of the Tertiary and Quaternary are reconstructed and their roles in forming the deposits and terraces discussed. The current forces molding the mesorelief are also considered. Copy seen: DLC.

UDINTSEV, G. B., see also Bezrukov, P. L., and G. B. Udintsev. Kurile-Kamchatka trough . . . 1958. No. 44016. UDINTSEV, G. B., see also Bezrukov, P. L., and G. B. Udintsev. Novye dannye . . . dal'nevostochnykh moref. 1953. No. 44018.

48509. UDVARDY, MIKLOS D. F. Observations on the habitat and territory of the chaffinch, Fringilla c. coelebs L., in Swedish Lapland. (Arkiv för zoologi, Dec. 15, 1956. bd. 9, no. 24, p. 499–505, text map.) 25 refs.

During an excursion of the 10th International Ornithological Congress in the vicinity of Kiruna (67°55' N. 20°50' E.) in summer 1950, the habitat preference of the chaffinch and its relationship to the brambling (Fringilla montifringilla) were studied. The territories of the scarce chaffinch population sometimes overlap with those of the brambling, but no sign of interspecific intolerance or competition was noticed. The advance of the chaffinch and the regression of the brambling in southern and central Lapland are seen as results, ultimately of the amelioration of the climate.

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UHLENDORF, C. P., see Van Dyke, J. G., and others. The survival of Escherichia coli to freezing and drying. 1936. No. 48683.

48510. ULLENIUS, GUNNAR. Vinter vid polcirkeln. (Svenska turistföreningen, Stockholm. Årsskrift, 1955. p. 33-60, 18 illus., map.) Text in Swedish. Title tr.: Winter at the Arctic Circle.

Flying northward from southern Sweden to Jokkmokk, the author considers differences between the Lapland winter and that in the south, also variations from one year to another in Lapland. Midwinter is a period of maximum activity in the forest, on reindeer ranges, and in business. Use of modern techniques and equipment is noted; the annual winter fair at Jokkmokk is described.

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48511. ULLENIUS, HJALMAR. Sarek nittonhundratio. (Svenska turistföreningen. Årsskrift, 1956. p. 276–88, illus., map.) Text in Swedish. *Title tr.:* Sarek in 1910.

Recounts a walking trip with two companions, to the mountains near Jokkmokk, northern Sweden, an area then relatively little known. The route was by Akste and the Rapa River to the Mikka glacier on Sarek (approx. 67°30′ N. 19° E.), then northeastward

to a hut near Stora Sjöfallet. Supplies sent ahead to Akste were carried by three reindeer; the driver found Swedish food unpalatable, as Lapps use little salt in their diet. Copy seen: DGS.

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ULMER, WOLFGANG, see Bruck, A., and others. Tierexperimentelle . . . Regulation der Atmung . . . Hypothermie . . . 1956. No. 44164.

48512. U. S. S. R. GLAVNOE UPRAVLENIE GEODEZHI KARTOGRAFII. Karta lesov SSSR, v masshtabe 1:2-500000. Pod obshchef redaktšiel F. M. Kozlova i V. P. Tšeplfaeva. Moskva, 1955. Col. map in 32 sheets, with index map in envelope. Text in Russian. Title tr.: Map of forests of the U. S. S. R., scale 1:2,500,000. F. M. Kozlov and V. P. Tšeplfaev, editors.

The map is based on data collected by Main Administration of Forestry of the Ministry of Agriculture of the U. S. S. R. Types of forests and unforested areas, including tundras, are distinguished by color and conventional signs, explained in legends on each sheet and (cumulated) on sheet 25 also index map, scale 1:15,000,000. Arctic and subarctic areas are shown on sheets 3 (Kola Peninsula), 4-7 (arctic tundra regions), 8 (Chutkotka and Anadyr' River basin), 11 (Arkhangel'sk Province), 12 and 13 (Omsk and Krasnovarsk Provinces), 14 and 15 (Yakut A. S. S. R.) and 16 (Kamchatka). Tundra and thin forest tundra predominate in the arctic regions, with forest intrusions beyond the Arctic Circle on Kola Peninsula (pine, spruce and birch) and in Yakut A. S. S. R. (larch). Copy seen: DLC.

U. S. S. R. GLAVNOE UPRAVLENIE GIDROMETEOROLOG I CHESKO I SLUZHBY, see Khromov, S. P. Sinopticheskie profsessy Dal'nego Vostoka. 1940. No. 45971.

48513. U. S. S. R. KOMITET PO PRO-VEDENIÑ 2-go MEZHDUNAROD-NOGO POLÍARNOGO GODA. Gidrologicheskie nablûdeniña morskikh ékspeditsil 2-go MPG 1932-1933 g., vyp. 1: Obshehie svedeniña o rabotakh morskikh ékspeditsil. Pod redaktsiel I. A. Kireeva. Leningrad-Moskva, Gidrometeorol. izd-vo, 1937. 86 p. 33 maps (part fold.) Text in Russian and in English. Title tr.: Hydrological observations of the sea expeditions of the Second International Polar Year, 1932-1933, part 1, General information on the work of the sea expeditions. I. A. Kireev, Editor.

Purpose and scope of the Soviet oceanographic investigations are outlined in an introduction by N. N. Zubov (p. 7-15 and 49-56), who states the objectives of the Second International Polar Year generally, and their relation to achieve-ments of the First Year, 1882-83. In the Second, unlike the First, ice conditions were favorable for oceanographic work. Soviet vessels made 26 oceanographic research trips altogether, in waters between Greenland and Bering Seas. Each is mapped (route and stations), and each in turn is briefly described in Russian (p. 16-48) and English (p. 57-85): its purpose, area, personnel, vessel, equipment, and methods, length of trip (in general and in ice), and number of stations; kinds of observations and collections made are stated. The scientific results were published as pt. 2-7 of this work: pt. 4-5 and 6-7 on the Kara-Laptey, and the East Siberian-Chukchi-Bering Seas were listed as No. 8722 and 8728 of this Bibliography. Pt. 2-3, results of the Perset and Knipovich investigations in Greenland and Barents Seas, have not been seen.

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U. S. S. R. MINISTERSTVO OBO-RONY, see U. S. S. R. Voenno-morskoe ministerstvo. Morskot atlas. 1950–53. No. 48515.

48514. U. S. S. R. MINISTERSTVO STROITEL'STVA. TEKHNICHE-SKOE UPRAVLENIE. Tekhnologicheskie pravila proizvodstva shlakobetonnykh stenovykh kamnet,  $\frac{TP-1-53}{MSPTI}$ . Moskva, Gos. izd-vo literatury po stroitel'stvu i arkhitekture, 1953. 116 p. tables, diagrs., graphs. Text in Russian. *Title tr.:* Technological regulations for the preparation of slag-concrete wall blocks, TP-1-53 MSPTI'

Lightweight, frost- and heat-resistant slag-concrete blocks have been widely adopted for wall construction in buildings. Standards and regulations on their use have been developed by the joint scientific research organization and approved by the Technical Administration of the Ministry on Building of Heavy Industry. These regulations cover the selection of production methods, specifications for basic materials and mixture components, etc., for various types of

blocks. Preparation, processes and general thermal conditions required, also thermal treatment (steaming) for rapid setting and hardening are dealt with. Appendix contains supplemental information on local regulations; tabulation of block characteristics; test regulation for component parts; computation of mixture composition; etc.; information on details. Copy seen: DLC.

48515. U. S. S. R. VOENNO-MOR-SKOE MINISTERSTVO. Morskof atlas. Tom 1, Navigatsionno-geograficheskil; Ukazatel' geograficheskikh nazvanil. Tom 2, Fiziko-geograficheskil. Otvetstvennyl redaktor I. S. Isakov; glav. redaktor L. A. Demin. [Moskva-Lenin-Morskogo general'nogo grad] Izd. shtaba, 1950-1953, in progress.

v. 1 in 2 pt.: pt. 1, pub. 1950: xv p., 83 double-page col. maps; pt. 2, pub.

1952: xiv, 543 p.

v. 2, pub. 1953: xviii, 5 p. 76 doublepage col. maps and graphs. Legend ("uslovnye oboznachenifa"), 1 leaf for each volume, is laid in. Text in Russian. Title tr.: Marine atlas. Vol. 1, Navigational-geographic; Index of geographic names. Vol. 2, Physical-geographic. I. S. Isakov, editor-in-chief; L. A. Demin, main editor.

The purpose and scope of this atlas are summarized in the preface to v. 1 (p. ix) as a fundamental, cartographic compendium of geography of the oceans and seas, intended, primarily as a reference book for scientific institutions, staffs, academies and officers of the Soviet Army and Navy. Also, it is to be a guide for captains and navigators of the marine commercial and trade fleet, for party and scientific workers, and for students of higher schools who are concerned with geography of seas. The work, initiated in 1941, but delayed by the World War, is planned in three volumes, the last, Military-political (Voenno-politicheskii), pub. in two parts, 1957-1958, will be described in vol. 9 of Arctic Bibliography.

Vol. 1 deals with general characteristics of the oceans, seas, straits, bays, island groups, harbors, and regions of importance to navigation. The maps of this volume are of five main classes: (1) synoptic maps ("obzornye karty") of oceans, in scales 1:30 to 15 millions; (2) synoptic maps of seas, 1:10 to 5 millions; (3) general maps ("general'nye karty") of seas, 1:5 to 3 millions; (4) maps of maritime regions, 1:2,000,000

1:250,000; (5) plans of ports and naval bases, 1:200,000 to 1:100,000. The 83 map sheets in this volume cover all oceans and seas of the world, including the Arctic Basin, Barents, White, Kara, Laptev, East Siberian, and Chukchi Seas, the northern coasts of Scandinavia, arctic seas and waters of the Western Hemisphere (sheets 2, 3, 5, 8-13) and northern seas of the Far East, viz. Okhotsk and Bering Seas, the Northwestern Pacific, Gulf of Alaska and Aleutian waters (sheets 62, 65-69). The second part of this volume (p. 1-489) presents an index of approx. 120,000 geographic names on its maps. The listing, in Russian or (for most of non-Russian names) in Latin transcription. includes geographic coordinates as well as map references. Indexing methods, abbreviations, etc., are given (p. vi-xiv) as well as a glossary (p. 493-539) of 96 geographic generic terms in 25 main languages.

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Vol. 2 deals with principal voyages and expeditions (map sheets 1-6); oceanography (7-40); climate (41-69); and terrestrial magnetism, cartography and astronomy (sheets 70-76). Names, dates and routes of the main Russian and some non-Russian arctic expeditions are included on map sheets 1-6. Cartographic and graphic data on bathymetry, climate, fauna, flora and magnetism of arctic seas are noted on maps referring to: ocean bottoms (sheets 7-9), limits of polar ice in March and August (25), distribution of pinnipeds, marine fishes, birds and algae (39-40), air temperature, atmospheric pressure, wind, atmospheric circulation, climatic zones and precipitation (42-49), terrestrial magnetism (70-71) and on graphs of sunrise, sunset and the length of twilight for various latitudes (74-75). Appended (5 p.) is index of over 2000 names and terms in this volume. Copy seen: DLC.

48516. U. S. AERONAUTICAL CHART & INFORMATION CENTER, St. Louis. U. S. Air Force-U. S. Navy pilot's handbook: instrument approach procedure charts, low altitude. v. 3, North Atlantic and East Canada. St. Louis, Mo., 1956. 175 p. charts, maps, tables.

Contains instrument approach and letdown procedures for use in this area. Charts and information are included for aerodromes at Alert, Churchill, Coral Harbour, Eureka, Frobisher, Gander, Goose Bay, Great Whale River, Knob

Lake, Narsarssuak, Nord, Padloping, Pond Inlet, Resolute, River Clyde, and Sondrestrom. Copy seen: DLC.

48517. U. S. AIR FORCE. AIR PROV-ING GROUND COMMAND. Eglin Air Force Base, Fla. Aircraft emergency equipment and flying clothing for arctic conditions. Eglin Field, Fla., May 16, 1944. [42] l. incl. photos. Mimeographed. (Final report of the Army Air Forces Board, project no. 3391).

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Field tests were conducted near Ladd Field, Alaska, during the 1943-44 winter. Two test groups simulated a forced landing and a third group an emergency parachute jump. Temperatures during the tests ranged from  $-48^{\circ}$  to  $-13^{\circ}$  F. The equipment tested was standard emergency equipment carried in multiengined aircraft. An outline of the test program, photographs, sample sheets, lists of equipment contained in the kits and in heavy aircraft, and temperature records are included. The versatility of the parachute in emergency survival practices is noted; and parachutes with bright colored canopies are recommended as standard issue for arctic operations. Copy seen: AMAU.

48518. U. S. AIR FORCE. AIR PROV-ING GROUND COMMAND. Eglin Air Force Base, Fla. Consolidated unsatisfactory report on informal observations of aircraft and equipment used by the Cold Weather Detachment during the winter test season of 1946 and 1947 at Ladd Field, Alaska. Eglin Field, Fla., Apr. 28, 1947. 41 l. Typescript.

Deficiencies noted in cold weather operation of aircraft, vehicles, auxiliary equipment, and component parts are given in detail, and suggested improvements are listed. Particular emphasis is given to results of flight and taxi tests of B-29 aircraft at Ladd Field, and a discussion of operating characteristics of the weasel in cold, snow areas. Nearly all major equipment considered (except the weasel) was unsatisfactory for arctic use unless major improvements were made.

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48519. U. S. AIR FORCE. AIR PROV-ING GROUND COMMAND. Eglin Air Force Base, Fla. Meteorological station, portable, AN/TMQ-1 (XO-2) cold weather test. Eglin Field, Fla., May 4, 1945. 49 p. incl. 28 photos. (Report of the Army Air Forces Board, project no. 4449C413.6.) Field tests were conducted at Livengood, Alaska, during the 1944-45 winter to determine functional suitability of the station with respect to design, construction, and performance at low temperatures. All equipment necessary for highly mobile field operations is included in the portable station, such as barometers, thermometers, wind equipment, balloon-inflating equipment, precipitation gage, ceiling light projector, etc. The station was found unsatisfactory for low temperature operation. Recommendations are given for increasing the suitability.

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48520. U. S. AIR FORCE. AIR PROV-ING GROUND COMMAND. Eglin Air Force Base, Fla. Operational suitability test of building, precut weather station, hydrogen generator and balloon shelter. Eglin Air Force Base, Fla., Apr. 6, 1951. 41 p. illus. (Its: Project no. APG/SSB/ 43-C).

The precut building was erected and tested at Big Delta, Alaska, during the 1950-51 winter. The building was designed by the Corps of Engineers to serve as a shelter for preparing and launching balloons for rawinsonde operations. The structure is 20 ft. high with outside dimensions of 15 x 33 ft. Difficulties in erecting it and the necessity of augmenting materials from a local source make the building operationally unsuitable for Air Force use in the Arctic.

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48521. U. S. AIR FORCE. AIR WEATHER SERVICE. Climatology of the arctic regions. Dec. 1946. 3 v.: xx, 314 p. diagrs., graphs, fold. maps, tables. (Its: Special study no. 58.) 113 refs.

Comprehensive compilation of weather and climatic data for the American, European, and Asiatic arctic and sub-artic areas, Greenland, and the Arctic Ocean and adjacent seas. Part I includes a general description of the properties and movements of arctic air masses as well as the frequency of cyclonic storms in the area. Cyclone tracks for selected months are mapped, and representative synoptic situations are presented. Considerable data are included on surface and upper winds in the polar area. Part II presents detailed descriptions of particular weather elements, including visibility, illumination, icing, fog, temperature, and cloudiness. Data are included on occurrence and duration of snow cover. A brief ice glossary is given together with information from Russian sources on landing aircraft on ice. Part III consists largely of frequency data on occurrence of various visibility limits for different months, ceiling heights, and various weather phenomena.

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48522. U. S. AIR FORCE. AIR WEATHER SERVICE. Forecasting summer fog at Thule, Greenland. June 1953. 18 1. 20 maps & diagrs. (Its. 8th Weather Squadron Technical memo. no. 2.) Photostat.

One year's data were utilized to establish objective criteria for forecasting fog which presents the greatest hazard to flight operations in the area during the summer months. Scatter diagrams of various meteorological parameters are shown and analyzed. Surface temperature was found to be the most significant criterion with critical values of 30° F. in June, 35° F. in July, and 40° F. in August. Surface winds must have a northerly and westerly component for fog formation. The 1000-700 mb. thickness value is of some value in July as fog generally occurs only below the critical value of 9300 ft. Copy seen: AMAU.

48523. U. S. AIR FORCE. AIR WEATH-ER SERVICE. History of the 58th Weather Reconnaissance Squadron, July 1-Dec. 31, 1954; prepared for the historical office . . . by Capt. Jerrold L. Hastings. Eielson Air Force Base, Alaska, 1954. 10 p.l., 293 p. typescript,

photos., diagrs., tables, maps.

Section I (p. 1-141) contains a detailed discussion of the organization and accomplishments of the 58th Weather Reconnaissance Squadron, based at Eielson Air Force Base, Alaska. Operations and training, maintenance, supply, intelligence, and personnel and services are described. A detailed account of a simulated survival training exercise by a crew of 11 men on Dec. 6, 1954 is included (p. 117-41). Section II (p. 142-85) contains photographs of the squadron in general, and of the arctic survival exercise. Section III (p. 186-213) contains charts and graphs showing flight statistics, personnel assignments, and data relevant to the various missions flown. Appended (p. 214-93) are copies of correspondence, letters of appreciation, news clippings, copies of programs of social activities, reprints of papers or publications presented by members of the Squadron, and a summary history of the Squadron from Dec. 7, 1945 including flight statistics and maps showing tracks flown.

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48524. U. S. AIR FORCE. AIR WEATH-ER SERVICE. Studies on local forecasting: Coral Harbor, S. I., Keewatin, Canada: pt. 1, first study, circa Oct. 1943 from "Studies on local forecasting as submitted by stations within 16th weather region"; pt. 2, Hq., AAF Weather Division report no. 500-52, July 1944; pt. 3, revised study, circa July 1944. [Washington, D. C.] 1944. 4, iv, 5, 7 l. diagrs., tables, maps. Prepared by J. F. Pasilis, G. M. Lee, and D. F. Hartman.

General climatic conditions and objective forecasting rules are presented for this station located on the south coast of Southampton Island at 64°11′ N. and 83°21′ W. Orographic effects are minimal, but a land and sea breeze effect is marked during the summer. Little is known about autumn conditions. A normal frequency table of ceiling, visibility, and precipitation conditions and a wind rose for the period Oct.—May are included, also a topographic map of the island.

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48525. U. S. AIR FORCE. AIR WEATH-ER SERVICE. Studies on local forecasting: Cordova, Alaska. 1. First study, 30 September 1943, from "Preliminary compilation of forecasting aids," 11th Weather Region. Washington, D. C., Andrews Air Force Base [1943]. 4 1. tables.

A meteorological summary is given for this station located at 60°32′ N. 145°42′ W. Temperature and precipitation data are based on lengths of record varying from 22–28 years. Data on cloud cover and visibility are also included. The topography of the area and brief empirical forecasting rules are given.

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48526. U. S. AIR FORCE. AIR WEATH-ER SERVICE. Studies on local forecasting; Shemya Island, Alaska; pt. 1, first study, 9 September 1943, reprinted as Hq. AAF, Weather Division report no. 600-59, July 1944; pt. 2, study from "Local weather conditions in Alaska", 11th Weather Region, 30 June 1944. Washington, D. C., 1944. 11; iv, 11 1. diagrs., map, tables.

Tentative objective forecasting rules are summarized for this island. Located at 52°47′ N. and 174°15′ E. it is approx. 2 x 4 mi. in extent; orographic influences

are negligible. Fog is the chief hazard to flying in the summer months. Forecasting difficulties arise due to the lack of weather data for stations to the west. A topographic map of the island is included.

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48527. U.S.AIR FORCE. AIR
WEATHER SERVICE. 5th Weather
Group. Climate of the Northeast Air
Command Region. New York, Oct.
1953. 64 l. maps. 15 refs. Mimeographed.

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A general climatological summary is presented of the general area including Newfoundland, Labrador, Baffin Island, Ellesmere Island, and Greenland. Monthly and annual variations in temperature, precipitation, and snowfall are mapped. Prevailing wind direction and speed, and normal pressures are shown. Seasonal tracks of high and low pressure centers are also mapped.

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48528. U.S.AIR FORCE. AIR WEATHER SERVICE. 5th Weather Group. Forecasting for the North Atlantic-Arctic, part 1; analysis and forecasting for the NEAC area. New York, 1954-55. 7 pts. diagrs., illus., graphs, maps, tables.

Local forecast studies are given for seven stations: Harmon Air Force Base and Torbay in Newfoundland; Goose Bay, Labrador; Keflavik, Iceland; and Thule, Sondrestrom, and Narsarssuak, Green-Typical synoptic patterns and air mass weather types are described for each Forecasting techniques and special forecast problems are given in detail. Standard climatic data are tabulated and The studies are based on graphed. climatological data collected during the general 1940-50 period and on the experience of forecasters stationed in the Nor. heast Air Command area. A map of each station area is included.

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U. S. AIR FORCE. ARCTIC AERO-MEDICAL LABORATORY, see Elsner, R. W. Some acclimatizing responses of man . . . cold exposure. 1955. No. 44773.

U. S. AIR FORCE, ARCTIC AERO-MEDICAL LABORATORY, see Hemingway, A., and L. Birzis. Nervous control of shivering, 4... effect of hypoxia ... 1956. No. 45514. 48529. U. S. AIR FORCE. HEAD-QUARTERS 18TH AIR FORCE. Project 572, Ice Cube, 1955, Canada. Donaldson Air Force Base, S. C., 1955. 3 pt.: 38 l.; 249 l.; 340 l., illus., diagrs., maps, tables.

Typescript.

The initial planning, actual operations, and difficulties of airlifting supplies and equipment to DEW Line construction sites in Apr.-May 1955 are described in detail. Major difficulties included lack of time for planning, a shortage of skiequipped airplanes, and poor landing facilities. General spring weather conditions in the Canadian Arctic are summarized, and mean meteorological data are given for 15 selected stations. mulas are given for estimating thickness of fresh-water and sea ice and required ice thickness for landings of C-124 aircraft. Data on daily operations and overall accomplishments are tabulated.

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48530. U. S. AIR FORCE. LADD AIR FORCE BASE, Alaska. Motor vehicle operation and winterization program Yukon sector, Alaska, Oct. 1947—Mar. 1948. n. p., 1948. 2 p. l., 22 p. illus., diagr. Photostat.

Contains report of observations and recommendations on arctic grade fuels and lubricants, winterization kits for trucks and other vehicles, starting oils (Redi-heat cartridge), water carriers, and sled-mounted maintenance shops at Ladd Field, Alaska. Training of personnel in installation, operation, and maintenance of winterization equipment was accomplished.

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**48531. U. S. AIR FORCE. NORTH- EAST COMMAND.** Exercise "Arctic Night", final report. 1956. iii, 42 p. diagrs., tables, maps, 24 photos.

This joint Army-Air Force training exercise was conducted at Thule Air Force Base, Mar. 14–15, 1956, to determine the feasibility of military operations by airborne troops in the Arctic. Illustrations of some of the equipment employed and the environmental conditions encountered are included. Climatological data for March are presented together with the forecast and actual weather conditions. The basic exercise objectives were accomplished without difficulty. The major shortcomings noted were the need for more adequate camouflage, improved ski training for troops, and more suitable aircraft.

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48532. U. S. AIR FORCE. TACTICAL AIR COMMAND. Operation plan TACAIR 56-3. Langley Air Force Base, Va. Jan. 24, 1956. 7 p. Typescript.

Va., Jan. 24, 1956. 7 p. Typescript.
Participation of the U. S. Eighteenth
Air Force in the military exercise "Arctic
Night" is outlined. Troop earrier support operations will be conducted Mar.
15-18, 1956, by airlifting 664 Army
troops and accompanying equipment with
C-124 aircraft. Information on budgeting
and publicity matters is given.

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48533. U. S. AIR UNIVERSITY. AIR COMMAND AND STAFF SCHOOL. Cold weather operations. Maxwell Field,

Ala., May 1947. 32 p. illus.

Contains photographs (52) and review of military operational problems in the Arctic with particular emphasis on the maintenance and operation of aircraft. Instructions are given for winterization of aircraft, and special equipment required for arctic units is listed. Included are winter-time pictures of Churchill, Cambridge Bay, Great Bear Lake, Yellowknife, and Fort Norman.

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48534. U. S. ALASKA RAILROAD COMMISSION. Railway routes in Alaska. Message from the President of the United States transmitting report of Alaska Railroad Commission. Washington, D. C., U. S. Govt. Print. Off., 1913. 172 p. 24 fold. maps (16 in pocket), 3 fold. profiles (in pocket), tables. (U. S. 62d Congress, 3d sess. House document no.

1346.) Approx. 170 refs.

Contains message of President Taft regarding the appointment of the fourman Commission (J. J. Morrow, A. H. Brooks, L. M. Cox, C. M. Ingersoll) and a summary of the Commission's findings. Then follows the report, dealing first with the organization and field work of the Commission, its itinerary; existing transportation routes, climate of central and southern Alaska, natural resources, population, and commerce. Existing and proposed railway routes are discussed with regard to resources and markets of area to be served, general geology, topography, and drainage, and their relation to construction: White Pass and Yukon Railway, Haines-Fairbanks route, Katalla and Controller Bay coal route, Cordova-Fairbanks route, Valdez-Fairbanks route, Seward-Fairbanks route, Iliamna-Kuskokwim route. The harbors and settlements of Skagway, Haines and Pyramid, Katalla, Controller Bay, Cordova, Valdez, Seward, and four harbors in Cook Inlet are briefly considered. Estimates are presented for construction costs of railroads and branch lines under consideration; also an analysis of operation costs on all routes. Markets for Alaska coal are briefly discussed. Conclusions and recommendations are presented. Appendices list equipment and machinery available for transfer from the Panama Canal; statistics of commerce and industry in Alaska: notes on Canadian railroad work; publications (including maps) relating to transportation and railway routes in Alaska.

Folded strip maps in pocket (scale 1:250,000, contour interval 200 ft.) cover by sections the Haines-Fairbanks Route, the Cordova-Valdez-Fairbanks Routes, the Seward-Fairbanks Route, the Seward-Iditarod-Innoko Route, and the Iliamna-Kuskokwim Route. Features (rivers, lakes, glaciers, settlements) and topography are shown in the region immediately adjoining the route. Maps are based on U. S. Geological Survey topographic maps. Long profiles are also presented showing altitudes of the Cordova-Fairbanks Route, the Valdez-Fairbanks Route and Seward-Fairbanks Route and some of the branch lines. Maps and profiles are based mainly on U.S. Geological Survey Copy seen: DGS.

48535. U. S. ARCTIC, DESERT, TROP-IC INFORMATION CENTER. The use of ice for aircraft landing strips. Maxwell Air Force Base, Ala., Research studies Institute, Air University, 1955.

17 l. (Project 572.)

An ice survey field team was organized to inspect and pass on the suitability of proposed landing strips on sea ice for C-124 aircraft operations in support of DEW Line activities in arctic Canada. A brief review is given of published data on ice strength, and some results of actual landings on ice are described. The results of the survey indicated that scientific data on the bearing capacity of ice are incomplete, that more trained personnel for studying and testing ice are needed, and that ice has an important potential use in cold-weather military operations. Problems encountered during the survey are discussed.

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48536. U. S. ARMY. ALASKAN COM-MAND. Exercise Snowbird; final report. [Fort Richardson? Headquarters, U. S. Army, Alaska, Office of the Commanding General.] 1955. iii, 14 p.

maps, diagrs.

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Contains a general summary of the joint U. S. Army-Air Force exercise conducted in the Talkeetna-Caswell area of subarctic Alaska, Jan. 10-Feb. 10, 1955. A mass parachute drop was made by an airborne regimental combat team, into snow 24-30 in. deep, with fewer injuries than expected. A snow airstrip adequate for landing cargo-type aircraft was constructed under simulated combat conditions. An infantry regimental combat team marched 55 mi. over difficult terrain in snow averaging 30 in. deep. Ice bridges, capable of supporting M-41 tanks were constructed.

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48537. U. S. ARMY. CONTINENTAL ARMY COMMAND. ARCTIC TEST BRANCH. Report of Arctic Test Branch, Big Delta, Alaska. Project Nr AB 1654 (Arctic): arctic testing of methods of parachute delivery of individual and crew-served infantry weapons and equipment, including the rucksack. (DA Proj Nr 7-87-03-001; RDB Tech Obj AL-3). Ft. Monroe, Va., Mar. 15, 1955. [77] p. fold. map, 28 photos, tables. Process print.

Details of the study and test results are given of parachute delivery of infantry weapons and equipment designed for airborne combat teams and conducted near Big Delta, Alaska, Nov. 28, 1954-Jan. 10, 1955. Equipment included in the test is illustrated. Deficiencies noted and suggested modifications to the equipment and method of delivery are listed. Map shows southern limits of the Arctic and sub-Arctic, coniferous forest limit, winter warfare limit (zone requiring some modification for sustained combat in winter), and the wind-chill line (isoline of cooling at the rate of 1,100 Kcal./sq. m. hr. for January in the Northern Hemisphere.

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48538. U. S. ARMY. CONTINENTAL ARMY COMMAND. ARCTIC TEST BRANCH. Report of Arctic Test Branch, Big Delta, Alaska. Project Nr AB 2353 (Arctic): Arctic test of aerial delivery kit for truck, cargo, 2½ ton, 6 x 6, M35. (DA Proj 87-03-001; RDB Tech Obj AL-3.) Ft. Monroe, Va., May 5, 1955. 17 p. 5 photos. Process print.

Materials required to prepare the truck for parachute dropping were tested under arctic conditions. The truck was successfully dropped five times on frozen ground and compacted snow from C-119 aircraft flying at 1,500 ft., by utilizing a cluster of five parachutes. The equipment before and after drop is illustrated. The kit was determined suitable for use in the Arctic.

\*\*Copy seen: AMAU.\*\*

48539. U. S. ARMY. CORPS OF ENGINEERS. Depth of snow cover in the Northern Hemisphere. Prepared by Arctic Construction and Frost Effects Laboratory, New England Division, for Office of the Chief of Engineers, Airfields Branch, Engineering Division, Military Construction. Boston, June 1954. 2 p. l., 4 l. table on 14 l., 38 plates (part. col.maps, diagrs.). (Its: Investigation of construction and maintenance of airdromes on ice, fiscal year 1954.) 80 refs.

Snow depths are depicted on a broad scale with no attempt to present local Data from 511 stations are tabulated. Station location and elevation are included along with the period and number of years of record. Stations listed include 13 for Alaska, 105 for Canada, five for Greenland, as well as several in Scandinavia and the Russian Arctic. Snow-depth values given for each month include the arithmetical mean, maximum, minimum, secondhighest observation and median. Monthly snow-cover maps from Oct. 31-May 31 are given for the mean, max. and min. snow depths. Frequency curves of various depths of snow are plotted for 312 individual stations. Copy seen: DLC.

48540. U. S. ARMY. CORPS OF ENGINEERS. Investigation of snow compaction methods and equipment, conducted for Engineer Research and Development Laboratories fiscal year 1949. Tables, drawings & photographs, descriptions of specialized procedures, plan of test. Boston, Soils Foundation and Frost Effects Laboratory, Corps of Engineers, U. S. Army, New England Division, June 1949. 11, 23 p. 18 tables, 156 plates (illus., charts, diagrs. incl. 19 fold., maps).

"Tests conducted at the Limestone Air Force Base, Limestone, (Maine) during the winter of 1948–1949, and results obtained with conclusions and recommendations, are presented. Full scale tests were performed to measure effectiveness of various types of compaction and steam injection apparatus and to examine the effect of repeated breaking up and

recompaction of the snow. Scale model pontons were used to study effects of individual variables on compaction results. Additional studies covered static laboratory compaction, California bearing ratio, modules of elasticity, and photomicrography. Snow densities up to about 0.5 gm/cm3 were easily obtained with modifications of commonly available compaction equipment. It is concluded that steam can not be effectively mixed with snow unless the snow is mechanically dispersed. Upper limits of bearing value of compacted snow, as represented by tests on pure ice, are shown to be of the order of several hundred percent California bearing ratio."-SIPRE.

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48541. U. S. ARMY. CORPS OF ENGINEERS. Trafficability of snow; report no. 2, Greenland studies 1954. Vicksburg, Miss., Waterways Experiment Station, Aug. 1955. iv, 155 p. diagrs., illus., map, tables. (Its: Technical memorandum no. 3–414.)

An account is given of tests with wheeled and tracked vehicles as well as towed sleds with snow conditions of a melt zone at Thule Take-off (Tuto, an ice ramp approx. 14 mi. southeast of Thule), a dry zone at Sierra (a temporary camp site located at 77°14' N. 62°20' W.), and a transition zone at Nuna Take-Off (Nuto, an ice ramp approx. 40 mi. northeast of Thule). The relatively narrow range of snow conditions tested precluded establishment of limiting snow conditions for the vehicles tested. The primary obstacles to vehicle mobility on the icecap seem to be the ramp slopes and crevasses. It is recommended that trafficability studies be continued, particularly on soft, loose snow and that criterion to define snow as passable should be 10-15 passes rather than 40-50 used on soils. The snow classification system used and the mechanical characteristics of Sierra snow are appended. Copy seen: AMAU.

48542. U. S. ARMY. CORPS OF ENGINEERS. ARCTIC CONSTRUCTION AND FROST EFFECTS LABORATORY. Approach roads, Greenland 1954 program, projects 1 and 10A. Boston, Mass., May 1956. 2 p. 1., 36 p. illus., diagrs., graphs, maps, tables. (11s: Technical report no. 64.)

Results are reported of field studies from June-Sept. 1954 near Thule on methods and techniques for the construction and maintenance of roads on bouldery, permafrost terrain as well as gravel-filled roads on ice surfaces of the glacial type. The site was between a point on the existing "P" Mountain Road approx. ten road miles from Thule Air Force Base and a point on the smooth ice ramp approximately 11 miles southeast of the base near Thule Take-off (TUTO). It is indicated that the normal cross section of roads on ice-free terrain should be a fill, the depth of which should meet the requirements for adequate drainage, snowdrift control, and loadsupporting capacity; cuts should be avoided. Roads of satisfactory bearing capacity may be constructed on the icecap ramp parallel to the lines of surface drainage; but some danger to road stability may result after several thaw seasons unless protective measures are taken. Data are tabulated and graphed on soil characteristics, water content and densities of undisturbed frozen soils and thawed soils, average daily temperatures and thawing indexes, the relation between thawing indexes and elevation, thaw penetration and degree-days of frost, subsurface temperatures, the influence of fill depth on thaw depth in subgrades, and ice-surface melt beneath various depths of gravel fill. Copy seen: DLC.

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48543. U. S. ARMY. CORPS OF ENGINEERS. ARCTIC CONSTRUCTION AND FROST EFFECTS LABORATORY. Development of power iccoring rig; investigation of construction and maintenance of airdromes on ice, fiscal year 1954. Boston, Mass., Mar. 1954. 45 l. (14.5 x 20 in.) incl. 36 sheets of drawings, etc., and 7 photos on 3 plates.

"Complete working drawings of the experimental rig are presented together with a summary of the basis of design, descriptions of the separate parts, discussion of operation methods and modifications suggested by tests and operating experience. The device removes cores 3 in. in diam. from snow and ice to depths of 6-25 ft. It is designed for rapid, shallow surveying of extended areas but can be used for deeper drilling. The rig is ski-mounted for easy towing and can be operated by two men."—SIPRE.

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48544. U. S. ARMY. CORPS OF ENGINEERS. ARCTIC CONSTRUC-TION AND FROST EFFECTS LABO-RATORY. List of investigational reports and other publications of the Arctic Construction and Frost Effects Laboratory. Boston, Mass., Dec. 1954. 11, 15 l.

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Publications are listed, with data, in the following categories: frost, snow and ice, permafrost, subsurface drainage, mole drainage, turf runway investigations. Russian translations, reports in preparation, etc. are included.

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48545. U. S. ARMY. CORPS OF ENGINEERS. ENGINEER RESEARCH AND DEVELOPMENT LABORA-TORIES. Report on Greenland operations, 1954. Ft. Belvoir, Va., Nov. 1, 1954. 32 l. (*Its:* Project 8–98–09– 002(A).)

Account of these Laboratories' 1954 activities in Greenland with reports on several of the individual projects and with some preliminary results. Projects discussed include construction of approach roads, snow compaction, trail marking, crevasse detection, water supply and waste disposal.

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48546. U. S. ARMY. CORPS OF ENGINEERS. NORTH PACIFIC DIVISION. Standard list of snow hydrology symbols. Portland, Ore., June 1954. 5 p. Mimeographed.

"A list of symbols frequently used in snow hydrology are presented for the purpose of standardizing symbol usage in future reports of the Snow Investigations unit. No attempt is made to define the symbols completely and no dimensions are included."—SIPRE.

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48547. U. S. ARMY. CORPS OF ENGINEERS. St. Paul District. Comprehensive report, investigation of military construction in arctic and subarctic regions, 1945–1948. Main report. Prepared for Office of the Chief of Engineers, Airfields Branch, Engineering Division, Military Construction, June 1950. xi, 68 p. incl. 44 plates (part fold.), illus., diagrs., graphs, maps, tables. 18 refs.

Contains data and results from investigations at Northway Airfield, Eleson and Ladd Air Force Bases, and the Fairbanks Research Area to determine design methods for use in arctic and subarctic military construction, with special reference to permafrost problems. Construction equipment and methods, weather-station data, research on thermal proper-

ties of soils and insulating materials, and interpretation of frozen and unfrozen ground conditions from aerial photographs are described, as well as theoretical studies, field tests of model structures, and geophysical exploration methods.

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48548. U. S. ARMY. CORPS OF ENGINEERS. St. Paul District. Engineering problems and construction in permafrost regions. [Washington, D. C.] 1956. vi, 53 p. illus., diagrs., tables, text map. (In: U. S. Office of Naval Operations. The dynamic North, v. 2, no. 3.) 9 refs.

Techniques of aerial and field reconnaissance, design, construction, and maintenance in permafrost areas are discussed. The location of permafrost in the Northern Hemisphere is mapped, and the average depths to permafrost for a few stations in Alaska and for the U. S. S. R. are tabulated. Particular emphasis is given to construction of roads, airfields, and buildings as well as the development of water supply and sewage systems.

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U.S. ARMY. CORPS OF ENGINEERS. SNOW ICE PERMAFROST ESTABLISHMENT, see Livingston, C. W. Excavations in frozen ground, pt. 1; explosion tests . . . 1956. No. 46405.

U. S. ARMY. CORPS OF ENGINEERS. SNOW ICE PERMAFROST RESEARCH ESTABLISHMENT, see also U. S. Library of Congress. Technical Information Division. Bibliography . . . snow, ice and permafrost. 1956. No. 48618.

48549. U. S. ARMY. CORPS OF ENGINEERS and CANADIAN ARMY ENGINEERS. Digest of current information on perma-frost. Reproduced by Deputy Installations, Alaskan Air Command, 1949. 3 p. l., 57 p. diagrs., map. 12 refs.

Contains a comprehensive but for the most part non-technical summary of the general and engineering aspects of perma-frost. A number of simplified illustrations are included which indicate the proper methods for placing various types of foundations in permafrost. A brief glossary of permafrost terms is added.

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48550. U. S. ARMY. MOUNTAIN AND COLD WEATHER TRAINING COM-MAND. Mountaineering notebook. Fort Carson, Colo., 1956? 171 p. diagrs, Contains a series of lesson plans designed to prepare better the individual soldier for military operations in mountainous country. The environment, including snow and cold, is similar in many respects to that encountered in the Arctic, and many suggestions relative to personal hygiene and survival techniques are equally applicable for polar regions. Emphasis is placed on military aspects, but sections are also included on preparation of shelters and rations. A glossary of mountaineering terms is added.

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48551. U. S. ARMY. MOUNTAIN AND COLD WEATHER TRAINING COMMAND. Winter handbook. Camp Hale, Colo., 1955? 238 p. diagrs., Process print.

The handbook designed for military personnel contains a series of 27 lessons covering various aspects of operations in winter or under similar conditions. Clothing and sanitary problems are outlined as well as types of improvised shelters, and care of equipment. Several lessons deal with land navigation in mountains and in arctic or subarctic regions. Specific military topics discussed include care of weapons, camouflage techniques, use of mines in snow and ice, and individual fighting techniques.

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U. S. ARMY. QUARTERMASTER CORPS, see Chambers, J. V., and P. C. Dalrymple. Color regions of the world. 1956. No. 44305.

48552. U. S. ARMY. SIGNAL CORPS. Signal Corps meteorological support of Transportation Arctic Group (TRARG), Operation Ice Cap, Greenland, 1954. Interim report for AEPG Task H1A2, off-post meteorological support. Fort Huachuca, Ariz., Aviation and Meteorological Dept., Army Electronic Proving Ground, June 15, 1955. 31 l. illus., diagrs., tables. Photostat.

A meteorological support team of ten members was stationed at Sicova (77°14′ N. 62°20′ W.) 100 mi. northeast of Thule, June 14-Aug. 29, 1954. The team provided surface and upper air observations and analysis. Summaries of the weather observations, a mean temperature data chart for Greenland, and a tabulation of equipment used are appended.

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48553. U. S. ARMY. TRANSPORTATION CORPS. TRANSPORTATION RESEARCH AND DEVELOPMENT COMMAND. Fort Eustis, Va. Final report, the scientific program, Program B, Operation Ice Cap 1953. Stanford, Calif., Stanford Research Institute, Apr. 30, 1954. 457 p. illus., graphs, tables, diagrs., maps incl. 3 fold. in pocket. (U. S. Dept. of the Army, Project number 9–98–07–002. Contract number DA-44-177–188).

Contains reports by members of five 1953 field parties studying physical characteristics of the icecap and its marginal ice-free land in northwest Greenland. The Ramp party worked in the Nunatarssuak area, with emphasis on the ice ramp forming Nuna Takeoff, the Twin Glaciers and the adjacent ice-free land. The Norcut party made a traverse of the ice sheet to Inglefield Land and a reconnaissance of part of the north-facing ice cliff and the adjacent ice-free land. The Solo party studied the ice ramp forming Thule Takeoff and made a traverse on the ice sheet to a point on the icecap approx. 300 miles east of Thule. The Solair party made a detailed reconnaissance survey of the geology in the area south and east of Thule and of Wolstenholme and Saunders Islands. The fifth field party, Anchor, located, marked and mapped a safe route traversing the Thule Ramp. The results of this work, coordinated by Stanford Research Institute are abstracted in this Bibliography under the authors' names, viz:

Ramp

GÓLDTHWAIT, R. P. Scientific studies in Nunatarssuak and the adjacent icecap.

FERNALD, A. T., and A. S. HORO-WITZ. Bedrock geology of the Nuna-

tarssuak area.
COLTON, R. B., and C. D. HOLMES.
Geomorphology of the Nunatarssuak

NOBLES, L. H. Glaciology of the Nuna ice ramp.

WHITE, S. E. Glaciology of the Twin

outlet glacier area.

BARNES, D. F. Gravity studies in

the Nuna Ramp area.

BEARD, T. N. Runoff in the Nuna
Ramp - Twin Glacier Area.

BENNINGHOFF, W. S., and H. C. ROBBINS. Botanical investigations.

GOLDTHWAIT, R. P. Meteorology of the Nunatarssuak area Norcut

NICHOLS, R. L. Scientific studies on the icecap and in Inglefield Land with special reference to military significance. NICHOLS, R. L. Military signifi-

NICHOLS, R. L. Military significance of geologic studies in Inglefield

NICHOLS, R. L. Geomorphology of southwest Inglefield Land.

HARTSHORN, J. H. Glaciological studies from Thule to Inglefield Land. HOLTZSCHERER, J. J. Seismic in-

vestigations in Inglefield Land. PERROUD, P. Geodesy and cartog-

raphy in Inglefield Land.

Solo

FISHER, C. C. Scientific studies on

the Greenland icecap.

ALLEN, C. F., and S. W. MILLER.
Seismic measurements on the Greenland

BARNES, D. F., and R. J. ZAVADIL. Gravity studies on the Greenland icecap. TONEY, G. R. Meteorology of the Greenland icecap.

KUCERA, R. E. Snow studies related to trafficability on the Greenland icecap.

Solair

NICOL, A. H. Solair party.

KRINSLEY, D. Surficial geology of the greater Thule area.

DAVIES, W. E. Bedrock geology of the greater Thule area.

BENNINGHOFF, W. S. Vegetation types in the greater Thule area.

Anchor

TABUTEAU, F. Trail survey between Thule Takeoff and Camp Alpha. Copy seen: CaMAI.

48554. U. S. ARMY. TRANSPORTATION CORPS. TRANSPORTATION RESEARCH AND DEVELOPMENT COMMAND. Ft. Eustis, Va. Operation Ice Cap: D7 tractor, ladder type track, vehicle tests; report no. 120, v. 2, part B, book 2. Ft. Eustis, Va., Mar. 1, 1954. 279 l., illus., diagrs., tables. Process print. Prepared by Noville and Associates.

"The modified D7 caterpillar tractor, equipped with special ladder-type tracks, was tested in Greenland for ground pressure, drawbar pull, maximum speed, gradeability, maneuverability, and fuel consumption over powder and compacted snow under various sled-train-load conditions. The test procedures are described, and the results are tabulated and graphed.

The maximum drawbar pull over soft, virgin snow was 16,000 lb. The vehicle made 18 passes over soft snow with and without load before trail deterioration occurred; and in second gear climbed a 3° wet snow slope towing a 12-ton gross load, a 6° crusted-snow slope towing 14 tons, and a 3° ice slope with a 28-ton The turning radius was gross load. approximately 50-60 ft. when towing a gross load of 14 tons, and 425 ft. with a gross load of 42 tons. Average fuel consumption on soft snow was 0.31 gallons/ mi. for 1,000 lb. drawbar pull. A maximum speed of 6.7 m. p. h. was obtained in fourth gear. The disadvantages of the vehicle are listed and recommendations for improvement are made."-SIPRE.

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48555. U. S. ARMY. TRANSPORTATION CORPS. TRANSPORTATION RESEARCH AND DEVELOPMENT COMMAND, Ft. Eustis, Va. Operation Ice Cap: Frandee sno-shu model "D" tests; report no. 120, v. 2, part E. Ft. Eustis, Va., Mar. 1, 1954. 100 l., illus., diagrs., tables. Process print. Prepared by Noville and Associates.

"The Frandee sno-shu, a lightweight, relatively high-speed, gasoline-powered vehicle was tested in Greenland for ground pressure, drawbar pull, maximum speed, gradeability, fuel consumption, and maneuverability over fine-grained and compact snow with various sled-train-load conditions. The vehicle design characteristics and test procedure are described. and the results are tabulated. Maximum drawbar pull was approximately 2,700 lb. in either first or second gear. The drawbar pull/weight ratio was about 0.71:1 with a gross weight of 3,800 lb. The sno-shu was the fastest vehicle in the test program, capable of sustaining speeds above 20 m. p. h. Fuel consumption depended on snow conditions and drawbar pull, varying from 1 mi./gallon with a full tow load to 2 mi./gallon without load on virgin snow, averaging 0.87 gallons/mi. per 1,000 lb. drawbar pull. The vehicle was able to negotiate a 3° slope with a tow load and a 12° slope without load, although track and side slip were evident. The track system, consisting of wooden cleats fastened to rubber belts running over pneumatic tires, permitted runs at high speeds for extended periods without damage. The forward keeled-ski steering system was effective in stabilizing the vehicle at high speeds and in preventing deflections from course, except on hard ice surfaces. Recommendations for improvements are made."—SIPRE.

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48556. U. S. ARMY. TRANSPORTATION CORPS. TRANSPORTATION RESEARCH AND DEVELOPMENT COMMAND. Ft. Eustis, Va. Operation Ice Cap: modified D7 LGP caterpillar vehicle tests; report 120, v. 2, pt. B, book 1. Ft. Eustis, Va., Mar. 1, 1954. 135 l., illus., diagrs., graphs, tables. Process print. Prepared by Noville and Associates.

"The ground pressure, drawbar pull, maximum speed, gradeability, maneuverability, and fuel consumption of a widertracked, higher, and more powerful D7 caterpillar tractor were tested in Greenland over fine-grained and compacted snow under various sled-train-load conditions. The test procedures are described, and the results are tabulated and graphed. Maximum drawbar pull was 15,000 lb. at 0 percent slip on compacted snow. The vehicle made 15 passes on soft snow with and without load before trail deterioration occurred, and climbed 6° bare ice slopes in second gear when towing a gross load of 28 tons. The turning radius was about 30 ft. when towing a gross load of 9 tons, 60 ft. when towing a 14-ton gross load and about 400 ft. with a gross load of 37 tons. Maximum speeds under various conditions ranged from 3 to 8.4 m. p. h. The average fuel consumption on soft snow was 0.33 gallons/mi. for 100 lb. drawbar pull. Engine stability was generally good. The vehicle was difficult to enter, was too heavy, and "heeled in" because of a center of gravity too far to the rear. Other disadvantages, primarily in winterizing adequacy and operator comfort, are listed, and suggestions for improvements are made."-SIPRE. Copy seen: DES.

48557. U. S. ARMY. TRANSPORTATION CORPS. TRANSPORTATION RESEARCH AND DEVELOPMENT COMMAND. Ft. Eustis, Va. Operation Ice Cap: reconnaissance sled tests; project no. 120, v. 2, part G. Ft. Eustis, Va., Mar. 1, 1954. 54 l., illus., diagrs., tables. Process print. Prepared by Noville and Associates.

"Two types of one-ton sleds (1952 and 1953 models) for towing by light-weight reconnaissance vehicles were tested in Greenland for load-distribution effects,

ground pressure, penetration, surface effects and sliding resistance over finegrained and compacted snow. The two sleds were nearly identical in design, with full-length, symmetrical runners of flat steel plate, and differing only in size and in minor construction details such as retractable fore and aft keels. procedure is described and the results are tabulated. The 1953 type sled with a 5,700 lb. load showed maximum penetrations of 1-3 in. in virgin snow and 3-7 in. after 15 passes. The average starting resistance of the 1953 model equipped with a four-man wanigan was 2,800 lb.; the maximum sliding resistance was 650 lb. in virgin snow. The average sliding resistance of the 1952 model with a oneton load was about 500 lb. on glare ice. 720 lb. up a 3° slope and 150 lb. down the same slope. Minimum turning radius of the 1952 sled when towed by the sno-shu was 10 ft.; that of the 1953 model when towed by the sno-cat was 75 ft. Both sleds tracked and rode poorly because of their short single-runner length. towbar shock-spring rate was too slow for train operation of three or more loaded sleds. Other disadvantages are listed and recommendations for improvement are made."-SIPRE. Copy seen: DES.

48558. U. S. ARMY. TRANSPORTATION CORPS. TRANSPORTATION RESEARCH AND DEVELOPMENT COMMAND. Ft. Eustis, Va. Operation Ice Cap: rolligon vehicle tests; report no. 120, v. 2, pt. A. Ft. Eustis, Va., Dec. 12, 1953. 217 l., illus., diagrs., tables. Process print. Prepared by Noville and Associates.

"Tests were made on the inland ice and its approaches, North Greenland, to evaluate the operating capabilities and characteristics of Rolligon tractors as well as powered and unpowered trailers under various ground conditions, and to obtain design data for large cargo vehicles using the Rolligon principle. The test procedures, measurement methods, and instruments used are described, and the results are tabulated and graphed. Rolligon principle consists essentially of using low pressure air bags for flotation and traction, and a set of powered rollers above the bags for both load support and friction drive to the bags. The rollers tested were convex in shape with a short center section of uniform diameter tapering down to the ends, and had steel cores covered with a thick treated layer of rubber. The bags showed satisfactory trailpenetration and turning-radius characteristics, independent of snow-density Multiple passes and -cover conditions. did not destroy the trail nor materially change the underlying snow structure. Average penetration was 3-4 in. on dry, wind-blown snow, with gross vehicle weights from 10,000 lb. (no payload) to 15,000 lb. (full payload). Tractive ability and durability of the bags were poor. Maximum operating speed at 6,000 ft. elevation was 6 m. p. h. Vehicle bounce and sway was extremely severe and normal vehicle speed was generally restricted to 3.5 m. p. h. The greatest immediate usefulness of the Rolligon bag principle is seen in their use with unpowered trac-Suggestions for improvement are tors. made."-SIPRE. Copy seen: DES.

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48559. U. S. ARMY. TRANSPORTATION CORPS. TRANSPORTATION RESEARCH AND DEVELOPMENT COMMAND. Ft. Eustis, Va. Operation Ice Cap: sled and runner ski tests; report no. 120, v. 2, part F. Ft. Eustis, Va., Feb. 19, 1954. 360 l., illus., diagrs., tables. Process print. Prepared by Noville and Associates.

"Tests were made in Greenland on load distribution, ground pressure, penetration, surface effects, and sliding resistance of standard Otaco 10-ton sleds equipped with various types of skis (12, 8, 24 and 30 in. wide; flat bottom, 10°- and 20°angle vee bottom; rounded and pointed nose) to determine the best combination of loads and runner skis for operation over soft and compact snow. The experimental runners were made of steel plate and bolted to the original narrow runners. Test procedures are described and performance data are tabulated and graphed. The 10° vee was the most satisfactory of the three ski-bottom types tested. Angle of attack and nose type had little or no effect on towing resistance due to the fact that the tip and a larger portion of the riser rode out of the snow. The nose of the ski hastened trail deterioration considerably, resulting in hummock formation during multiple Ground clearance was adequate only with sleds equipped with 6 in. and 10 in. chairs. Other design deficiencies are listed, and recommendations for improvement are made."-SIPRE.

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48560. U. S. ARMY. TRANSPORTATION CORPS. TRANSPORTATION

RESEARCH AND DEVELOPMENT COMMAND. Ft. Eustis, Va. Operation Ice Cap: Tucker sno-cat model 743 vehicle tests; report no. 120, v. 2, part D. Ft. Eustis, Va., Mar. 1, 1954. 109 1., illus., diagr., tables. Process print. Prepared by Noville and Associates.

"The Tucker sno-cat, model 743 double drive, was tested in Greenland for ground pressure, drawbar pull, maximum speed, gradeability, fuel consumption, maneuverability, and ability to handle various types and sizes of towed loads on fine-grained and compacted snow. test procedures are described, and the results are tabulated. The sno-cat exerted a maximum drawbar pull of 6,000 lb. with a vehicle gross weight of 6,800 lb. (a drawbar-pull-to-weight ratio of about 0.88), performing better in this respect than any other vehicle tested during Operation Ice Cap. Vehicle flotation was satisfactory and penetration of the snow cover was slight, amounting to 7 in. after 30 passes over the same trail. Snocat maneuverability over all types of snow and ice terrain with towed loads up to maximum capacity was better than with any other tracked vehicle tested in the program. The vehicle was capable of negotiating 6° slopes on hard ice with a gross weight of 10,000 lb. at speeds from 8-10 m. p. h. in third gear. Maximum practical towed load was approximately 10,000 lb. gross weight, requiring drawbar pulls from 2,000-4,000 lb., depending on surface and grade. Fuel consumption was about 0.54 gallons/mi. for 1,000 lb. drawbar pull. The main disadvantage of the vehicle was the accumulation of snow around sprockets and inside pontoons, which froze solid on parking. Other disadvantages are listed and recommended improvements are outlined."-SIPRE. Copy seen: DES.

48561. U. S. ARMY. TRANSPORTATION CORPS. TRANSPORTATION RESEARCH AND DEVELOPMENT COMMAND. Fort Eustis, Va. Summary, final report, Operation Ice Cap 1953, scientific program (Program B), SRI Project 826, Gneiss. Fort Eustis, Va., Apr. 30, 1954. iii, 19 p. map. (Dept. of the Army Project no. 9–98–07–002, Contract no. DA-44–177–188.) Prepared by Howard B. Hutchinson, Stanford Research Institute.

The background, objectives, and organization of Program B are described: the results of scientific investigations

designed to solve problems of military trafficability are discussed, evaluated, and summarized; and recommendations for future research are made. Both theoretical and applied studies were made in Nunatarssuak, on the Thule ramp, the icecap itself, and in Inglefield Land, to determine how physical characteristics affect surface transportation from the ice-free zone across the transition zone at the edge of the icecap to the dry snow core. Some of the major surface types of snow were located and identified; the geology and geomorphology of the icefree zone were investigated and mapped to determine the effects of the bedrock on the movement and structure of the ice and ice thickness; and access routes from the coastal margins to the ice and safe routes were established. A glossary of glaciological terms is appended.

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48562. U. S. ARMY. TRANSPORTA-TION CORPS. TRANSPORTATION TRAINING COMMAND. Transportation Arctic Group. 1955 report; v. 1, Greenland. Fort Eustis, Va., Jan. 30, 1956. xi, 365 p. illus., charts, diagrs., maps, tables.

The results of investigations in the Thule area to determine requirements and develop facilities for moving personnel and cargo over snow and ice are reported, and recommendations for the solution of the problems encountered are made. The research program included studies of optimum ground transportation equipment (T43E2 Snow Tractor, XM357 Rolligon, D8 LGP Tractor, and 10-ton plastic sled); the development of techniques for heavy and light swing operations during short and long hauls; the development of navigation, trail reconnaissance, and trail marking techniques on the icecap; investigations on transportation capability at very low temperatures and in darkness; and the development of cargo transfer methods in marginal areas and on the icecap. Observations were also made of weather, terrain, and daylight and darkness conditions. Effects of arctic environment on the capability of movement on the icecap were studied. Semi-permanent quarters and facilities were built at the edge of the icecap at Camp TUTO. Data on logistics, results achieved, meteorological elements (fog, snow, wind, temperatures, light and darkness, visibility, whiteout, etc.) and terrain conditions (including crevasses) are tabulated and graphed. Health conditions and effects of the environment on personnel are reported. The Transportation Army Group was formed in 1953 to implement a five-year arctic program approved by the U.S. Army. This report covers operations during the third year of the plan which were of considerably greater magnitude than in the previous years. The earlier program was continued but, in addition, year-round operations over long distances and cost-per-mile data for both short and long hauls were studied. The results proved the feasibility of transporting personnel and heavy loads over the icecap.

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48563. U. S. ARMY AIR CORPS. Report of cold weather detachment, winter of 1942-1943. Fairbanks, Alaska, Ladd Field, 1943. 2 v. 552, 494 p. charts, illus., map, tables.

A comprehensive report is presented of the program and test results. The winter's program was the first following the Detachment's reactivation at Ladd Field, Fairbanks, Alaska, after suspension due to Japanese activity in the nearby Pacific area. Results were particularly valuable because of the unusual severity of the winter. Emphasis of the program was placed on testing aircraft, component parts, and auxiliary equipment. Vol. 1 in four parts comprises general, test aircraft, miscellaneous, and commercial representatives' reports. Vol. 2 contains reports from the following laboratories: aero medic, clothing, armament, materials, propeller, aircraft, equipment, power plant, and photographic. The following equipment was among that tested: airplane wheels, tires, and brakes; hydraulic systems in aircraft, control systems; heaters and defrosters; de-icing equipment; airplane skis; airplane engines and housing; ignition, fuel and oil systems; propellers and governors; coolant systems; armament and bombardment equipment; radio equipment and other instruments; ground heaters and power plants; and servicing equipment. The results in general showed the equipment to be unsatisfactory for use in the Arctic. Copy seen: AMAU.

48564. U. S. ARMY AIR FORCES. AIR SERVICE COMMAND. List of Russian material on cold weather operation. Preliminary. Fairfield, Ohio, Patterson Field, June 1943. 9 p. (Its: Special studies, no. 1.)

Approximately 140 references to books, journal and newspaper articles are listed under such headings as, alighting gear and landing fields, engine starting, flying clothing, ice reconnaissance, icing etc., (nearly half) under arctic aviation: non-technical.

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48565. U. S. ARMY AIR FORCES. WEATHER INFORMATION BRANCH. Climate of Okhotsk, U. S. S. R. Washington, D. C., Jan. 1944. 4 1. diagrs., maps, table. (Its: General Climatic Information Guide, no. 81.)

General climatic conditions are presented for the area on the north shore of the Sea of Okhotsk. Data based on 2-32 years of record are given for air masses, temperature, precipitation, cloudiness, visibility, and wind. Topographic and soil trafficability maps are given. Military implications of climatic conditions are tabulated. Graphed data include number of days with snow cover and the wind frequency distribution. The climate of Fairbanks, Alaska, is somewhat comparable to this area.

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48566. U. S. ARMY AIR FORCES. WEATHER INFORMATION BRANCH. Climate of Petropavlovsk, Kamchatka, U. S. S. R. Washington, D. C., Dec. 1943. 4 l., diagrs. maps, table. (*Its*: General climatic information guide, no. 78.)

General climatic conditions are discussed for the southeast coastal area of Kamchatka. Air masses, temperature, precipitation, cloudiness, visibility, and winds are included. Topographic and soil trafficability maps are given. Military implications of climatic conditions are tabulated. Climatic data graphed include number of days with snow cover, and the wind frequency distribution. The temperature and precipitation regime at Dillingham, Alaska (59°03' N. 158°27' W.) is comparable to that of Petropavlovsk.

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U. S. ATOMIC ENERGY COMMIS-SION, see David, L. R. Thorium, a bibliography . . . 1953. No. 44553.

48567. U. S. BUREAU OF AERO-NAUTICS (NAVY DEPT.). Height change charts 500 millibar. Washington, D. C., Jan. 1949-May 1952. 41 nos. maps. (Its: Project Arowa, TED-UNL-MA-501.)

The daily 24-hr. changes in the height

of the 500-mb. surface for Jan. 1949-May 1952 in the Northern Hemisphere are represented on a series of polar stereographic projections. Isopleths for 200-ft. height changes are drawn, and the estimated maximum change is indicated in each center.

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48568. U. S. BUREAU OF AERO-NAUTICS (NAVY DEPT.). Height change track charts 500 millibar. Washington, D. C., 1949–1952. 4 nos. maps. (*Its*: Project Arowa, TED-UNL-MA-501.)

Five-day track charts of the centers of maximum rise and fall of the 500 mb. surface in the Northern Hemisphere for 1949, 1950, 1951, 1952 are given. The centers plotted on a polar stereographic projection include the maximum 24-hr. tendency and the day of occurrence. Considerable data are included for the area north of 60° lat.

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48569. U. S. BUREAU OF RECLAMA-TION. Laboratory tests on proposed embankment materials: Caribou Creek Dam, Caribou Creek Project, Alaska. Denver, Colo., Mar. 1956. 11 p., graphs, tables. (*Its*: Earth Laboratory report, no. EM-448).

Contains results of gradation, Proctor density, and Atterberg limits tests on soil samples for use in the embankment of this dam. The Project consists of a dam, tunnel, penstocks, and powerhouse to supply power for the Palmer-Anchorage area. The dam is about 60 miles east of Palmer (61°36' N. 149°07' W.) where permafrost is generally within three ft. of the surface. Samples tested, primarily sandy gravel, containing 17 to 46 percent fines of low plasticity, test procedures, etc. are briefly described; appended are description of and results presented in full. Copy seen: DGS.

U. S. BUREAU OF SHIPS, see U. S. Maritime Administration and Bureau of Ships. Specifications . . . twin screw . . . cargo ships . . . 1955. No. 48620.

U. S. BUREAU OF STANDARDS, see Navigation. Forward scatter of radio waves . . . 1956. No. 46963.

48570. U. S. BUREAU OF YARDS AND DOCKS. Arctic hut, M-1. [Washington, D. C.] Nov. 15, 1948. 3 1. Mimeographed.

Describes arctic hut developed by the Douglas Aircraft Co. The prefabricated

structure is designed to serve as a 16man barrack, or for equipment storage at temperatures down to -65° F. Twelve 4 x 8 ft. sandwich-material panels form each side of the hut which is 20 x 48 ft. with a clear floor area of 960 sq. ft. Copy seen: DWB.

48571. U. S. COAST AND GEODETIC SURVEY. Current tables Pacific coast North American and Asia, 1957. Washington, D. C., U. S. Govt. Print. Off., 247 p. diagrs., graphs, tables. (Its: Serial, no. 796.)

Annual publication containing daily current predictions, with list of reference stations, including, for Alaska: Wrangell Narrows, Sergius Narrows, North Indian Pass, Isanotski Pass (False Pass), Unimak Pass, Akutan Pass, Kvichak Bay, with special explanation of predictions for Unimak Pass, current differences and constants, including Southeast Alaska waters, Gulf of Alaska, Aleutian waters, Bering Sea. Data are given as in previous issues listed as No. 42974.

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48572. U. S. COAST AND GEODETIC SURVEY. Density of sea water at tide stations Atlantic coast, North and South America. Washington, D. C., U. S. Govt. Print. Off., 1953. 62 p. text map graphs, tables. (Its: Special publication, no. 279, rev. (1953) edition.)

Contains monthly mean and yearly mean and extreme densities, also mean salinities, based on observations through Includes (p. 9, 56) data for Ivigtut, southwest Greenland (61°12' N.

48°16′ W.), 1946-1952.

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48573. U. S. COAST AND GEODETIC SURVEY. Density of sea water at tide stations Pacific Coast, North and South America and Pacific Ocean islands. Washington, D. C., U. S. Govt. Print. Off., 1954. 63 p. text map, graphs, tables. (Its: Special publication, no. 281, fourth

Contains monthly mean and yearly mean and extreme densities also mean salinities, based on observations through 1953. Includes data for the following Alaskan stations: Constantine Harbor (Amehitka I.), Cordova, Dutch Harbor (Unalaska I.) Haines, Juneau, Ketchikan, Kodiak (Kodiak I.), Massacre Bay (Attu I.), Peard Bay, Point Barrow (Elson Lagoon and ocean), Port Moller, Seward, Sitka, Skagway, Sweeper Cove

(Adak I.), Women's Bay (Kodiak I.), Copy seen: DN-HO. Yakutat.

48574. U. S. COAST AND GEODETIC SURVEY. Magnetograms and hourly values College, Alaska, 1951. Washington, D. C., 1955. 191 p. diagrs., tables. (Its: MHV-Co51) 5 refs.

Records are presented of the College Magnetic Observatory located at 64° 51'.6 N. and 147°50'.2 W. Two magnetographs, the Eschenhagen and the insensitive, were maintained in operation during the period (Merril L. Cleven, observer-in-charge). Basic hourly values and derived means are tabulated for each of the magnetic elements: declination, horizontal intensity, and vertical intensity. Approx. quarter-size reproductions of the Eschenhagen magnetograms are shown. Selected insensitive magnetograms are reproduced to about 35 percent of original size.

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48575. U. S. COAST AND GEODETIC SURVEY. May 5, 1956 supplement to United States coast pilot 8, Southeast Alaska, Dixon Entrance to Yakutat Bay, tenth edition, August 30, 1952. Washington, D. C., U. S. Govt. Print. Off., 1956. 26 p. (Its: Serial 760/4.)

Contains additions, deletions and substitutions to No. 37899 of Arctic Bibliography. Includes changes reported from date of edition through Notice to mariners 18 of May 5, 1956, superseding Supp. 3 (June 11, 1955). Copy seen: DN-HO.

48576. U. S. COAST AND GEODETIC SURVEY. Surface water temperatures at tide stations, Atlantic Coast, North and South America. Washington, D. C., U. S. Govt. Print. Off., 1955. 69 p. charts, tables, maps. (Its: Special publication no. 278, 5th ed.) Previous ed. listed as No. 37898.

Contains summaries of sea-water temperatures based on observations made in Atlantic harbor and coastal waters through 1954. Monthly means and vearly mean and extremes for 1945-1952 for Ivigtut, Greenland, are tabulated, and monthly mean surface water temperatures are presented graphically to show seasonal variation. Copy seen: DLC.

48577. U. S. COAST AND GEODETIC SURVEY. Tide tables central and western Pacific Ocean and Indian Ocean, 1957 Washington, D. C., U. S. Govt.

Print. Off., 1956. 370 p. graphs, tables.

(Its: Serial, no. 794.)

Annual publication containing daily tide predictions, with list of reference stations (none arctic); tidal difference and ranges, including Severnaya Zemlya waters, Laptevykh More, Vostochno-Sibirskoye More, Chukchi Sea, Bering Sea, Sea of Okhotsk. Data are given as in previous issues listed as No. 42975. Copy seen: DN-HO.

48578. U. S. COAST AND GEODETIC SURVEY. Tide tables east coast North and South America, including Greenland, 1957. Washington, D. C., U. S. Govt. Print. Off., 1956. 276 p. graphs, tables.

(Its: Serial, no. 789.)

Annual publication containing daily tide predictions, with list of reference stations (none aretic); tidal differences and ranges, including Canadian Arctic Islands waters, Greenland Sea-Denmark Strait, Baffin Bay-Davis Strait, Hudson Bay and Strait, Labrador Sea. Data are given as in previous issues listed as No. 42976. Copy seen: DN-HO.

48579. U. S. COAST AND GEODETIC SURVEY. Tide tables Europe and west coast of Africa, including Mediterranean Sea, 1957. Washington, D. C., U. S. Govt. Print. Off., 1956. 204 p. graphs,

tables. (Its: Serial, no. 792.)

Annual publication containing daily tide predictions, with list of reference stations, including Narvik, Norway, and Kem and Yekaterininskaya, U. S. S. R.; tidal differences and ranges, including Greenland Sea, Barents Sea, Beloye More, Karskoye More, Zemlya Frantsa Iosifa waters, Svalbard waters. Data are given as in previous issues listed as No. 42977.

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48580. U. S. COAST AND GEODETIC SURVEY. Tide tables west coast North and South America, including the Hawaiian Islands, 1957. Washington, D. C., U. S. Govt. Print. Off., 1956. 226 p. graphs, tables. (Its: Serial, no. 791.)

Annual publication containing daily tide predictions, with list of reference stations, including, for Alaska: Anchorage, Cordova, Dutch Harbor, Juneau, Ketchikan, Kodiak, Massacre Bay, Nushagak Bay, Seldovia, Sitka, St. Michael, and Sweeper Cove. Tidal differences and ranges include Southeast Alaska waters, Gulf of Alaska, Aleutian waters, Bering Sea and Strait, Chukchi and Beaufort Seas. Data are given as in previous issues listed as No. 42978.

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48581. U. S. COAST AND GEODETIC SURVEY. United States coast pilot 9, Alaska, Cape Spencer to Arctic Ocean. Sixth (1954) edition. Washington, D. C., U. S. Govt. Print. Off., 1955. 673 p. illus., text charts, tables. (Its: Serial, no. 779.) Supplement, with additions and corrections to May 19, 1956. 17 p.

Revised edition of No. 18303 of Arctic Bibliography (formerly Alaska, pt. 2, Yakutat Bay to Arctic Ocean), corrected through Notice to mariners 45 of Nov. 6. 1954. General and regional navigation information and sailing directions through chap. 7 (Aleutian Islands) are similar in scope to the previous edition. Chap. 8 deals with Bering Sea and Strait and northward to Point Hope (68°20' N. 166°45' W.) in the Chukchi Sea, but not, as the previous edition, eastward to Herschel Island, Mackenzie District.

Appendices include tables of monthly mean sea temperatures and densities for ten localities; distance table for 33 localities; guide to U.S. federal offices in Alaska; radio stations broadcasting weather information; climatological tables for 30 land and 37 ocean areas; dates of ice breakup and freezeup for 41 localities on Gulf of Alaska, Bering Sea and Strait, Chukchi Sea; glossary of approx. 250 ice (and associated) terms, and guide to description of ice conditions for the ice observer. Extensive index to coastal features (p. 647-73) is included.

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48582. U. S. COAST GUARD. International ice observation and ice patrol service in the North Atlantic Ocean, season of 1955. Washington, D. C., U. S. Govt. Print. Off., 1956. 114 p. charts (12 fold.), graphs, tables. (Its:

Bulletin, no. 41.)

Contains section by A. J. Bush (p. 1-57) reporting on the 1955 season (Feb. 27-July 15). Sixty ice observation flights (no surface patrol necessary for fifth consecutive season) and four cruises by the oceanographic vessel Evergreen were Radio broadcasts of twice-daily ice bulletins to mariners began Mar. 7. Communications and monthly ice conditions are discussed. Charts showing ice conditions and surface isotherms, Mar. through June, and detailed chronological tables of ice reports are given. Only 61 bergs drifted south of 48° N., compared with the 1900–1955 average of 396 bergs. Their distribution was abnormal, none being found along the east slope of the Grand Banks or in the Flemish Cape area.

The second section, Physical ocean-ography of the Grand Banks and the Labrador Sea in 1955, by F. M. Soule and J. E. Murray (p. 59-114), deals with oceanographic investigations from the Evergreen, Mar. 30-July 25, during which 296 stations were occupied, 23 of them forming a section across the Labrador Sea. New equipment for taking 40gallon water samples from subsurface levels down to 150 m. is described. In addition to usual temperature and salinity measurements, 264 samples were taken across the Labrador Sea section for determination of total phosphorous con-Discussion includes: dycentration. namic topography of Grand Banks and southern Labrador Sea; position and strength of the Labrador Current: temperature-salinity relationships of Labrador Current water and Atlantic Current water and comparison with previous years; relation between position of the cold wall and strength of adjacent currents; distribution of velocity and temperature in vertical sections across the Labrador Current: dynamic topography of sea surface near the section from South Wolf Island, Labrador, to Cape Farewell. Greenland: phosphorous concentration across this section. Both Labrador and Greenland ends of the section showed a decrease from the abnormally tive circulation in the Labrador Sea characterizing the last several years. Tables of oceanographic data (depth. temperature, salinity) collected at each station are given (p. 81-114). section is also published as: Woods Hole. Mass. Oceanographic Institution. Contribution, no. 801.

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48583. U. S. CONGRESS. HOUSE.

Committee on Interior and Insular Affairs.

Alaska, 1955. Hearings before the Subcommittee on Territorial and Insular

Affairs... pursuant to H. Res. 30.

Washington, D. C., U. S. Govt. Print.

Off., 1956. 5 pt.: 310, 344, 217, 360, 287 p.

fold. map, graphs, tables. (U. S. 84th

Congress, 1st sess. House. Serial no. 27.)

Contains statements of Alaskan viewpoints on statehood as presented to the Subcommittee by Territorial, municipal and federal officials, business and professional men, representatives of clubs, airlines, labor unions, etc. Hearings were held Sept. 14-Oct. 6, 1955 in the principal cities and towns through the Territory. viz: Fairbanks, Barrow, Nome, McKinley Park, Anchorage, Elmendorf Air Base, Cordova, Palmer, Seward, King Salmon, Kodiak, Juneau, Sitka, Petersburg, Ketchikan, Hydaburg, Klawock, Craig, and Annette Island Reserve. Most aspects of Alaskan life and conditions are discussed as related to the question of statehood: business and industry (especially fisheries), trade and commerce, labor problems, taxes, public works, laws. natural resources and their development, growth of cities, cost of living, education, public health, native rights and restriction, natural parks, tourism, agriculture, protection of wildlife, etc.

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48584. U. S. CONGRESS. HOUSE. Committee on Interstate and Foreign Commerce. Air carrier certificates, Alaska and Hawaii. Hearings before a subcommittee of the Committee on Interstate and Foreign Commerce, House of Representatives, Eighty-fourth Congress, second session, on H. R. 9252, a bill to amend section 401 (e) of the Civil Aeronautics Act of 1938 in order to authorize permanent certification for certain air carriers operating in Hawaii and Alaska; and H. R. 9253, a bill to amend section 401 (e) of the Civil Aeronautics Act of 1938 in order to authorize permanent certification for certain air carriers operating between the United States and Alaska. March 28 and 29, 1956. Washington, D. C. U. S. Govt. Print. Off., 1956. iv, 154 p. illus., maps (part fold.)

Contains the text of hearings on two bills introduced by the Hon. E. L. Bartlett, Delegate-in-Congress from the Territory of Alaska. They are to enable Alaskan airlines to obtain permanent instead of temporary operating certificates. Statements are made by Governor Heintzleman and other government officials, by executives of the Alaska Coastal, Trans-Pacific, Alaska, Northwest, Ellis, Northern Consolidated, Wien Alaska, Cordova, and Pacific Northern Airlines, also Reeves Aleutian Airways, as well as by labor organizations and other interested parties. They offer general information and statistical data on economic conditions and the transportation industry, as well as on development of specific airlines in Alaska. Route maps as of Sept. 30, 1955 for individual carriers are given. Copy seen: DLC.

48585. U. S. CONGRESS. SENATE. Committee on Interior and Insular Affairs. Alaska mental health. Report to accompany H. R. 6376. Washington, 1956. 34 p. (84th Cong. 2d sess. Senate. Report no. 2053.)

Report on the House of Representatives' bill to provide hospitalization and care for the mentally ill, with the Senate Committee's amendments to it. The grants-in-aid provision, and land grant are discussed and a sectional analysis is

grants-in-aid provision, and land grant are discussed and a sectional analysis is given of the amended Bill, with copies of correspondence, etc. Copy seen: DLC.

48586. U. S. CONGRESS. SENATE. Committee on Interstate and Foreign Commerce. Alaska and west coast transportation problems. Hearings before the Committee on Interstate and Foreign Commerce, United States Senate, Eighty-fourth Congress, second session, pursuant to S. Res. 13 and S. Res. 163, resolutions to investigate certain problems relating to interstate and foreign commerce. . . . Washington, D. C., U. S. Govt. Print. Off., 1956. vii, 407 p. illus.

Includes hearings held Oct. 10 and 11, 1955 at Anchorage and Oct. 14 and 15 in Juneau. Statements are given of Alaskan Territorial and city officials, the Alaskan delegate to Congress, repr-sentatives of business and industry, merchant marine, land transport, shipping and airlines, etc. Subjects dealt with include rate regulations, air transport to, from, and within Alaska, rail transport, trucking, passenger and freight steamer service to Alaska, harbor construction, freight handling. Also contains some discussion and resolutions on Alaskan statehood.

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48587. U. S. CONGRESS. SENATE. Committee on Interstate and Foreign Commerce. Pacific Coast and Alaska fisheries. Hearings before the Committee on Interstate and Foreign Commerce, United States Senate, Eighty-fourth Congress, second session, pursuant to S. Res. 13, a resolution to investigate certain problems relating to interstate and foreign commerce. . . Washington, D. C., U. S. Govt. Print. Off., 1956. viii, 651 p. illus., map.

Contains material taken from the full transcript of hearings held Oct. 10-Dec. 5, 1955, in various cities, concerning fisheries and related problems of the

Pacific Coast and Alaska. Subjects covered by the statements, letters, documents, etc., include fish landings, fluctuations and depredation; fishing methods, their control and other means of conservation; competition of foreign fisheries, problems of the canning industry; research; labor and wages; special problems of the salmon fishery; problems of industrial efficiency, etc. Copy seen: DI.

48588. U. S. CONGRESS. SENATE. Committee on Interstate and Foreign Commerce. Pacific Coast and Alaska fisheries. Report pursuant to S. Res. 13 and S. Res. 163, 84th Congress, providing for the investigation of certain problems within the jurisdiction of the Committee on Interstate and Foreign Commerce. Washington, D. C., U. S. Govt. Print. Off., 1956. iii, 40 p. tables. (84th Cong., 2d sess. Senate. Report no. 3801.)

The investigation concerned itself with the problem of establishing a stable policy of management and development in the Alaskan and West Coast fisheries, of protecting it from "ruinous competition of low cost fish and fish products" from abroad, and of marketing. In conclusion, the fisheries problems are summarized, recommendations are made for a new federal fisheries authority at policy-making level; for conservation and development program; regulation of imports; and for economic aid to the industry.

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48589. U. S. CONGRESS. SENATE. Committee on Interstate and Foreign Commerce. Permanent certification for Alaska-Hawaii airlines. Hearing before the Committee on Interstate and Foreign Commerce, United States Senate, Eightyfourth Congress, second session, on S. 3163, a bill to amend section 401 (e) of the Civil aeronautics act of 1938 in order to authorize permanent certification for certain air carriers operating in Hawaii and Alaska, and S. 3164, a bill to amend section 401 (e) of the Civil Aeronautics Act of 1938 in order to authorize permanent certification for certain air carriers operating between the United States and Alaska. March 26, 1956. Washington, D. C., U. S. Govt. Print. Off., 1956. iv, 107 p. diagrs., tables.

Contains statements by officials of the Territory of Alaska and of nearly all air carriers operating in Alaska, including the Hon. E. L. Bartlett, Governor B Frank Heintzleman, O. F. Benecke of Alaska Coastal Airlines, Ralph Brown of Alaska Research Associates, Nelson David of Alaska Airlines, Raymond I. Petersen of Northern Consolidated Airlines, Inc., Merle K. Smith of Cordova Airlines, Inc., and Arthur G. Woodley of Pacific Northern Airlines, Inc. Text of an article by Harry Lever dealing with Wien Alaska Airlines is reprinted (from Pegasus, Jan. 1956). Summaries of mail ton-miles, service mail pay, and subsidy estimates are tabulated for various carriers. Nearly all presentments favored permanent certification.

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48590. U. S. CONGRESS. SENATE. Committee on Interstate and Foreign Commerce. Program for the rehabilitation of the Alaska salmon fisheries. Report by Warren G. Magnuson, chairman. Washington, D. C., U. S. Govt. Print. Off., 1956. iii, 14 p. illus. Committee print., 84th Cong., 2d sess., Senate.

Based on experts' study, following drop of catches in the past five years, the program recommends predator control, stream improvement, lake fertilization; direct feeding of wild salmon fry is stressed. Estimates of cost are given, also biological and fishing data.

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48591. U. S. DEPT. OF STATE. Proposal to exchange flights over Arctic with U. S. S. R. (*Its*: Dept. of State bulletin, Oct. 1, 1956. v. 35, no. 901, p. 508–509.)

The U. S. Government informed the Soviet Government on Sept. 19, 1956, that it was prepared to arrange reciprocal aerial observations of arctic ice in connection with the International Geophysical Year. Nome, Alaska was suggested as the U. S. terminal and Murmansk the Soviet terminal. The complete text of the U. S. note is given.

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48592. U. S. DEPT. OF THE AIR FORCE. Survival; training edition. Washington, D. C., Feb. 1956. 2 p. l., 373 p., illus, diagrs., maps, tables. (Its: AF Manual 64–3.)

Deals with the general problems of survival on land including first aid and food supply (p. 1–140). Problems peculiar to arctic (p. 141–86), desert, and tropic environments are presented in turn. Arctic environment, first aid (frostbite, immersion foot, snow blinding, carbon monoxide poisoning), signalling and preparation of shelters are explained. Food

supply is treated in detail with illus. of plants and game. Brief sections are also included on mountain travel and crevasse rescue, survival on sea ice and at sea. Graphic presentation of information and a useful index are features of the manual.

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48593. U. S. DEPT. OF THE ARMY. Land navigation by dead reckoning. Washington, D. C., Sept. 1949. 32 p. illus., diagrs. table. (*Its*: Technical Bulletin, TB Eng 90.) Prepared by Andrew Taylor.

Contains fundamentals of dead reckoning navigation for the orientation of ground personnel, especially in desert and arctic areas. Distance measurements, direction-finding instruments, navigation, and automatic plotting instruments are briefly described. A glossary of terms is appended.

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48594. U. S. DEPT. OF THE INTE-RIOR. ALASKA RAILROAD. Prospectus of rehabilitation program, with miscellany. Anchorage, Alaska, Aug. 19, 1946. 12 l. Mimeographed.

Major operating problems which contributed to a deficit for the railroad of 2.5 million dollars in 1946 are discussed, and a planned program of rehabilitation is outlined. Major problems include expensive maintenance, insufficient warehouse facilities, antiquated equipment, competition from other carriers, and inadequate labor supply. The cost of the program is estimated at nearly 32 million dollars.

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48595. U. S. DEPTS. OF THE ARMY AND AIR FORCE. Arctic construction. Washington, D. C., U. S. Govt. Print. Off., June 1952. iv, 464 p. illus., diagrs., tables, text maps. (Dept. of the Army Technical manual TM 5-560; Dept. of the Air Force Technical order TO 00-60B-2) Supercedes TB5-255-3, 25 Aug. 1950. Cf. No. 18412 of Arctic Bibliography, which is TB5-255-3, 1945.

Manual designed to acquaint military personnel with construction requirements and related engineering problems peculiar to arctic and subarctic areas. A general introduction to arctic geography is followed by a detailed presentation covering nearly all phases of construction and maintenance with emphasis on roads and air-fields. Working conditions, seasonal transportation problems, local resources, and permafrost are treated in turn. Summer work, buildings and utilities,

bridges, concreting, etc., are dealt with. Unusual applications are described, such as the use of ice and snow as construction materials, and cold-weather effects on explosives, camouflage.

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48596. U. S. ENGINEER SCHOOL. LIBRARY. Alaskan railroads, a selected list. Ft. Belvoir, Va., Dec. 1947. 2 p. l., 8 l. Photostat. (*Its*: Document 8000.)

Contains approximately 130 references to periodical articles, books, and government publications, listed alphabetically by author-title. Copy seen: AMAU.

48597. U. S. FISH AND WILDLIFE SERVICE. United States landings of ground-fish from the convention area, 1893–1950. Prepared by North Atlantic Fishery Investigations, Fish and Wildlife Service, for the second annual meeting of the International Commission for the Northwest Atlantic Fisheries, held in St. Andrews, New Brunswick, June 30 to July 10, 1952. [Washington, D. C., 1952?] 7 p. 15 fold. tables. Prepared for the meeting reported in No. 35387.

Contains information on sources and procedures of compilation; species covered (with Latin names) and conversion factors. This is followed by tables for 15 species of ground-fish landed from 1893 or later, till 1950. Copy seen: DLC.

48598. U. S. FISH AND WILDLIFE SERVICE. Alaska Fisheries Branch. Alaska fisheries 1955. Washington, D. C., 1956. 5 p. illus. tables.

Contains statistics of the 1955 catch of commercial fishery products. Includes breakdown by species and areas of catch; persons and craft engaged; weight and value of landings; fish products, their weight and value; and summaries of catches since 1936. Copy seen: DI.

48599. U. S. FOREST SERVICE.

Alaska Forest Research Center. Alaska forest research: problems and present status; annual report 1955. Juneau, 1956. 42 p. 7 illus., 2 text maps, 5 graphs, 9 tables. Mimeographed. (Its: Station paper, no. 4.) 14 refs.

Second annual report of agency established in 1948, deals with work involved in managing forest resources, forest inventory initiated in 1954, and plans for 1956. Research on insects, forest management, are reported, also study of effect of logging on salmon streams.

Four streams were selected in 1949 for long-term study; two to be logged, two as controls. Precipitation, soils, run-off, pattern of streamflow and effect on fish, are briefly reported, also storm analyses, ground-water depletion, stream temperatures, channel changes, intertidal zone change, sedimentation. 1955 publications of the Center are listed.

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48600. U. S. GENERAL STAFF. MILITARY INTELLIGENCE DIVISION. Siberia and Eastern Russia. Washington, D. C., U. S. Govt. Print. Off., 1918. 3 v.: 103, xl p.; 180, xxxviii p.; 121, xl p.; illus., diagrs., tables, maps. (War Department document no. 863.)

Part 1, entitled General description and introductory information, deals with the main geographical features of the area, and with transportation methods and equipment. Considerable data are given on the Trans-Siberian Railway; other railroads are discussed and mapped. Extermination of insects and local supplies and equipment are briefly noted.

Pt. 2, entitled Pacific Coast to Irkutsk, route notes and information, contains description of the routes and other railways (with list of stations on the Trans-Siberian), terrain, population, communications, climate, water supply, housing, industry, and detailed descriptions of stops along each route.

Pt. 3, entitled Central Siberia, contains description of the railway routes (stations listed), terrain, strategic points, stops along the routes, etc. Transportation on the Irtysh River, minor river routes, wagon road Irkutsk to Omsk, Lena route, and other wagon roads are described.

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48601. U. S. GEOLOGICAL SURVEY. Progress of Aleutian investigations, 1946–1951, and plans for 1952–1956. [Washington, D. C.] Feb. 1952. 21, 11 p. 4 maps (2 fold.), 4 diagrs., graphs, 4 tables. Mimeographed. 40 refs.

The Aleutian volcano investigations, initiated 1946 (cf. No. 31654) comprise three interdependent phases: geologic mapping, terrain and related military engineering studies, geophysical and geochemical investigations. Activities and plans in each are reported. Geologic field mapping and military geology studies were nearly half completed by 1951. Budget for 1952–1956 is tabulated. Appendices: list of 40 principal reports, published and in preparation, from the

program; report on geophysical studies in the Adak-Great Sitkin area, by J. H. Swartz and A. E. Jones, describing instrumentation, seismic observations, tiltmeter observations, and relationship of earthquake frequency to volcanic activity; recommendations for further observations. *Copy seen:* DGS.

48602. U. S. HYDROGRAPHIC OF-FICE. Aerial ice reconnaissance; observational techniques and recording and reporting procedures. Second edition. Washington, D. C., 1956. 12 p., 17 illus., 2 text maps. (*Its*: H. O. Misc. 15603.) Ref.

Second edition of No. 37918, with addition of a sample ice track chart as basis of the ice message; section on the use of radar is revised and photographs of common ice conditions are added.

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48603. U. S. HYDROGRAPHIC OF-FICE. Arctic ice and its drift into the North Atlantic Ocean. 15th ed. Washington, D. C., May 1956. fold. sheet. 4 illus., charts, graph.

Latest edition of No. 37920.

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48604. U. S. HYDROGRAPHIC OF-FICE. Distribution of ice, Amundsen Gulf to Shepherd Bay. Washington, D. C., May 1955. 49 p. 37 text charts, graph, 2 tables. (Its: Technical report, TR-25.)

Ice distribution in the southwestern Canadian Arctic Islands (approx. 67°-72° N. 95°-126° W.) is briefly described, on the basis of expedition reports, limited aerial ice observations, climatological and oceanographic data. Charts of mean ice conditions are presented for the Dec .-Mar. period, monthly Apr.-July, fortnightly during Aug.-Sept., and monthly for Oct. and Nov.; three sectors are shown: Amundsen Gulf through Dolphin and Union Strait, Coronation Gulf and Dease Strait, Queen Maud Gulf to Shepherd Bay. Charts of observed conditions on a flight over the entire area, July 23, 1953, are also presented.

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48605. U. S. HYDROGRAPHIC OF-FICE. High latitude celestial navigation tables, latitudes 70°-89°, Washington, D. C., July 1946. vi, 337 p. (*Its:* H. O. no. 230, prelim. ed.)

The volume consists of two main tables: star tables prepared for use in the north polar regions; and declination tables which can be used for either north or south polar regions. Functions tabulated in the star tables include altitude, true azimuth, and a correction term. Ten stars are listed for every hour angle and are arranged in cyclic order of azimuth. The declination tables contain altitude, azimuth angle, and a correction term.

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48606. U. S. HYDROGRAPHIC OF-FICE. Ice charts of the Canadian Arctic, derived from U. S. Naval summer operations. [Washington, D. C.] 1949. 17 l. incl. 16 charts. (Its: H. O. misc. 15074.)

Ice conditions as observed from aircraft during Aug. 1949 are charted separately for 16 days and 20 flights. The observations are concentrated around Barrow Strait although two flights are recorded for one day which extended from Barrow Strait to Grant Land (northern Ellesmere) and from the Strait to Prince Patrick Island. Some observations from U. S. icebreakers are also included. Ice conditions are given graphically in terms of five classes of ice penetrability.

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48607. U. S. HYDROGRAPHIC OF-FICE. Ice observations. 2d ed. Washington, D. C., 1956. 20 p. illus., diagrs., 2 text maps. (*Its*: H. O. pub. no. 606-d. Hydrographic Office observers manual.) Supercedes No. 37921.

Observer's manual containing brief descriptions of ice characteristics and observational techniques and reporting procedures for shipboard, aircraft, and shore station use. Sample radio messages and ice reporting forms are included.

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48608. U. S. HYDROGRAPHIC OF-FICE. List of lights and fog signals, volume V. Norway, Iceland, and Arctic Ocean. Corrected to January 1, 1956. Washington, D. C., U. S. Govt. Print. Off., 1956. 370 p. (loose-leaf) text map, tables. (Its: H. O. pub. no. 34, 1956.) Change no. 1, Nov. 24, 1956 (loose-leaf).

Revision of No. 37923 of Arctic Bibliography. Gives number (U. S. Hydrographic Office and International numbers) of light, name and location, geographic position, characteristic and power, height above high water, visibility in nautical miles, type and height of structure; also remarks for coasts of Norway, U. S. S. R., and Vestspitsbergen.

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48609. U. S. HYDROGRAPHIC OF-FICE. Loran tables, v. 1; North Atlantic chain. 3d ed. [Washington, D. C.] 1949. xix, 352 p. maps, tables. (*Its:* H. O. pub. no. 221.)

Tables are given for standard Loran operations in the two megacycle range, utilizing stations along the eastern coast of the United States and Canada. Separate tables are given for each station pair, which include chartlets showing station positions, area covered, and distribution of loran lines, sky wave corrections, and tabulated co-ordinates. A description and examples of the use of loran tables are included. The area covered in the western North Atlantic extends from below 30° to above 60° N. lat. Copy seen: DN-HO.

48610. U. S. HYDROGRAPHIC OF-FICE. Oceanographic observations aretic waters, U. S. S. Edisto and U. S. S. Atka: cruises summer 1950, winter 1951, summer 1951, winter 1952, summer 1952. Washington, D. C., 1954. 315 p. text charts, tables. (Its: H. O. pub. no. 618-A.)

Contains oceanographic data collected on five cruises. Seventy-four stations were occupied in eastern Canadian Arctic Islands waters, Smith Sound-Robeson Channel, Baffin Bay, Davis Strait and Labrador Sea during summers 1950-1952. Water temperatures ranged from 7° C. to 1.7° C. and salinity from 30.00°/00 to 35.02°/oo (increasing with depth). Maximum transparency was 19 m. and minimum 1.8 m. During winters 1951 and 1952, 101 stations were occupied in Denmark Strait and Greenland Sea. Water temperatures ranged from 7.4° C. to -1.2° C. and salinity from 33.62°/oo to 35.40°/oo. Water was unusually clear, with transparency as high as 46 m. Data presented for each station include date and time, geographic position, bottom depth, weather and sea conditions, depth of sample, sea temperature, salinity, density, dissolved oxygen. Civilian personnel on each cruise are listed.

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48611. U. S. HYDROGRAPHIC OF-FICE. Oceanographic observations arctic waters, U. S. S. Edisto and U. S. S. Atka: cruises winter 1953, summer 1953. Washington, D. C., 1954. 95 p. text charts, tables. (Its: H. O. pub. no. 618-B.)

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Contains oceanographic data collected on two cruises in Baffin Bay, Davis Strait and Labrador Sea. In winter (41 stations occupied), surface water temperatures ranged from -1.8° C. to 3.5° C. and subsurface -0.5° C. to 4.7° C.; surface salinity from 33.04°/oc to 34.92°/oc. subsurface 33.26°/oo to 35.02°/oo. All stations were taken in freezing air temperatures. In summer (27 stations occupied in Baffin Bay-northern Davis Strait), surface water temperatures ranged from -1.9° C. to 5.6° C., subsurface -1.3° C. to 1.8° C.; surface salinity from 26.93°/oo to 34.31°/oo, subsurface 31.00°/oo to 34.60°/oo. Transparency of water ranged from 20 m. to 8 m. Data are presented for each station as in No. 48610.

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48612. U. S. HYDROGRAPHIC OFFICE. Sailing directions for British Columbia, volume II, fifth edition, 1952; change no. 2, 4/7/56. Washington, D. C., U. S. Govt. Print. Off., 1956. loose-leaf. (11s: H. O. pub. no. 176, change no. 2.)

Contains additions and corrections to No. 37925 of Arctic Bibliography. Corrections are through Apr. 7, 1956, including Notice to mariners, no. 14, 1956. Copy seen: DN-HO.

48613. U. S. HYDROGRAPHIC OFFICE. Sailing directions for East Greenland and Iceland, second edition, 1951; change no. 3, 10/6/56. Washington, D. C., U. S. Govt. Print. Off., 1956. loose-leaf. (*Its*: H. O. pub. no. 75, change no. 3.)

Contains additions and corrections to No. 26955. Corrections are through Oct. 6, 1956, including Notice to mariners, no. 56, 1956. Copy seen: DN-HO.

48614. U. S. HYDROGRAPHIC OF-FICE. Sailing directions for northern U. S. S. R., first edition, 1953; change no. 1, 12/29/56. Washington, D. C., U. S. Govt. Print. Off., 1957. loose-leaf. (1ts: H. O. pub. no. 137A, change no. 1.)

Contains additions and corrections to No. 37927. Corrections are through Dec. 29, 1956, including Notice to mariners, no. 52, 1956. Copy seen: DN-HO.

48615. U. S. HYDROGRAPHIC OF-FICE. Sailing directions for the east coast of Siberia, second edition, 1951; change no. 2, 10/6/56. Washington, D. C., U. S. Govt. Print. Off., 1956. loose-leaf. (Its: H. O. pub. no. 122A, change no. 2.)

Contains additions and corrections to No. 26957. Corrections are through Oct. 6, 1956, including Notice to mariners, no. 56, 1956. Copy seen: DN-HO.

48616. U. S. HYDROGRAPHIC OF-FICE. Sailing directions for the northwest and north coasts of Norway, fourth edition, 1952; change no. 2, 12/3/55. Washington, D. C., U. S. Govt. Print. Off., 1955. loose-leaf. (*Its*: H. O. pub. no. 136, change no. 2.)

Contains additions and corrections to No. 37931. Corrections are through Dec. 3, 1955, including Notice to mariners, no. 55, 1955. Copy seen: DN-HO.

48617. U. S. HYDROGRAPHIC OF-FICE. Sea ice forecasting program in support of military operations. (U. S. Office of Naval Research. Research reviews, May 1956. p. 1-9, illus., maps.)

Contains a review of the program of the United States Navy Hydrographic Office for ice observation and forecasting in the This represents the first iceforecasting service in the Western Hemisphere. System of aerial reconnaissance and ice observers is described. 180-day predictions, 30-day and 48-hour forecasts are provided. Work of Defant and Zubov was extended to devise a system of "Ice potential forecasting." program is designed to aid various military and other specialized operations which rely heavily on sea transport. Tonnage transported to arctic bases by ship during 1955 amounted to more than 3.5 million barrels of fuel oil and 0.5 million tons of other cargo.

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48618. U. S. LIBRARY OF CONGRESS. Technical Information Division. Bibliography on snow, ice and permafrost, with abstracts. Washington, D. C., 1956. 2 v: 273, 190 p. (SIPRE report 12, v. 9-10, Jan.-July 1956.)

Vol. 9 contains 1500 abstracts, v. 10, 1000 abstracts, of papers on snow, ice, perennially and seasonally frozen ground and related engineering problems. Scope is similar to vols. 1–8 (listed as No. 26960, 32623, 37938, 43027, in Arctic Bibliography) with emphasis on earlier (19th century) materials and patents.

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48619. U. S. LIBRARY OF CONGRESS. Technical Information Division. The polar bibliography. Produced for the Dept. of Defense. [Washington.] 1956. In progress. xii, 223 p. (U. S. Air Force manual 200–132; DA Pamphlet 70–1;

OPNAV instruction 3470.3; NAVMC 1127.)

Records unpublished documents: reports, staff studies and memoranda, translations, also pamphlets, manuals and books, all prepared by the U.S. military or their contractors, issued since 1939, and free of security classification. They deal with polar and sub-polar regions, also experiments, tests and performance of equipment, operational information and cold weather techniques. man in cold environment, etc. In v 1, a thousand items are listed with abstracts of their contents; subject and author indexes are provided. A companion series, Classified polar bibliography, is projected to cover documents subject to security classification.

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48620. U. S. MARITIME ADMINISTRATION and U. S. BUREAU OF SHIPS. Specifications for construction of twin screw Navy small cargo ships (ice strengthened) T-AK270 class; includes modifications no. 1, dated 7 July 1955. Maritime Administration diesel electric design C 1-ME2-13a. Washingtion, D. C., U. S. Govt. Print. Off., 1955. 248 p. tables. (no. 14; code 415.)

Contains detailed hull, machinery, and electrical specifications for this diesel-powered cargo ship designed for arctic and cold weather operations. The bow profile is designed similar to that of an ice-breaker, and features a closed, heated ice pilot station with remote control equipment for navigating in ice. The ship is approximately 266 ft. long with a load capacity of 1,300 tons. Useful index is added.

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48621. U. S. MILITARY SEA TRANS-PORTATION SERVICE. MSTS Office, St. John's. (*Its:* MSTS magazine, May 1956. v. 6, no. 5, p. 6–7, illus.)

Port facilities and operations of the Military Sea Transportation Service office at St. John's, Newfoundland, are described briefly. The port is normally ice-free throughout the year but heavy precipitation and fog are common. The office serves as forward echelon for summer resupply operations to arctic military bases.

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48622. U. S. MILITARY SEA TRANS-PORTATION SERVICE. MSTS Office, Whittier. (*Its:* MSTS magazine, July 1956. v. 6, no. 7, p. 14–15, illus., map.) Facilities and operations of this port are described briefly. It is a major year-round center for military passengers and cargo destined for coastal and interior Alaska. Connections with the Interior are made by the Alaska Railroad. In addition to the railroad terminal, the port contains two main Army buildings, a sawmill, and several commercial offices. A large apartment building is nearing completion which will house military dependents. Copy seen: DLC.

48623. U. S. MILITARY SEA TRANS-PORTATION SERVICE. Polar study made of cosmic rays. (*Its:* MSTS magazine, Oct. 1953. v. 3, no. 10, p. 19–20, illus.)

High altitude cosmic ray observations sponsored by the Office of Naval Research and made from the Navy ice-breaker Staten Island near the North Magnetic Pole are described briefly. The operation, called Project Muskrat, utilized rockets fired from balloons after reaching altitudes of 50,000–70,000 ft. The rocket reached an altitude of 295,000 ft. during tests in the summer of 1952.

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48624. U. S. MILITARY SEA TRANS-PORTATION SERVICE. Prefab dock offers super-service in a hurry. (*Its:* MSTS magazine, Oct. 1953. v. 3, no. 10, p. 4–6, illus.)

The construction and installation of prefabricated steel docks at Thule, northwest Greenland, during Operation Blue Jay are described. The sections were fabricated in Texas and towed like barges to the permanent dock site. This type of dock is particularly suitable for use in the Arctic since it requires about 10 percent of the time and a smaller percentage of the labor required for the conventional construction. The dock placed at Thule consisted of four 50 x 250 ft. sections placed end to end.

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48625. U. S. MILITARY SEA TRANS-PORTATION SERVICE. Resolute Redbud is a tough little ship. (Its: MSTS magazine, May 1956. v. 6, no. 5, p. 19. illus.)

p. 19, illus.)
The USNS Redbud is described briefly.
The 1,025-ton ship is classified as a light cargo carrier-icebreaker and is powered by a 1,200 hp. diesel-electric engine. It is used for preliminary charting of the ice pack and other advance work required

for the annual arctic resupply operations in the North Atlantic-Baffin Bay area.

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48626. U. S. MILITARY SEA TRANS-PORTATION SERVICE. Steel piers installed at Whittier. (*Its*: MSTS magazine, May 1954. v. 4, no. 5, p. 17.)

Two DeLong-type prefabricated piers were installed at Whittier, Alaska, in Oct. 1953 to replace facilities destroyed earlier by fire. The steel barges forming the piers were towed from Charleston, S. C., and Austin, Tex.; 16 men working three weeks readied the units for partial operations. The barges measured 427 x 90 x 15 ft. and 250 x 60 x 10 ft.

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48627. U. S. NATIONAL BUREAU OF STANDARDS. Symposium on the propagation of V. L. F. radio waves, Jan. 23–25, 1957. Boulder, Col. [1956]. 3 v.

Prepublication record of 44 papers presented at the Symposium. Three of them, based on work in the North, are abstracted in this Bibliography under their authors' names, viz:

No. 7. WILCOX, J. B., and E. MAPLE. Origin and propagation of audio-frequency geomagnetic field fluctuations.

McKERROW, C. A. Some recent measurements of atmospheric noise in Canada.

STANLEY, G. M. Anomalous ground wave propagation in the vicinity of Point Barrow, Alaska. *Copy seen:* DLC.

UNITED STATES NATIONAL COM-MITTEE FOR THE INTERNATIONAL GEOPHYSICAL YEAR. See under International Geophysical Year, 1957–1958. U. S. National Committee.

48628. U. S. NAVAL CIVIL ENGINEERING RESEARCH AND EVALUATION LABORATORY. Port Hueneme, Calif. Snow-removal operations, winter 1952–53. Port Hueneme, Calif., Aug. 25, 1953. 6 p. l., 57 p. 4 fold. charts, photos. (Its: Project NY 012 021–1. Technical memorandum M-047.)

The most suitable equipment and techniques for snow removal from airstrips, access roads and building areas were investigated. The most effective commercial blade-type unit for high-speed air-strip clearance incorporates a high-speed mover with a reversible high-mold-board plow controlled from the cab. The most satisfactory commercial rotary-type

unit is an auger-type plow mounted on a four-wheel drive, four-wheel steer incorporating a double reduction axle. Standard commercial equipment does not fully satisfy military requirements and suitable design modifications should be undertaken. Detailed characteristics and photographs of the equipment, and a simplified classification of natural snow types for engineering purposes are appended. The tests were conducted at the Sierra Test Site at June Lake, Calif. Maintenance charts covering equipment tests are included. Copy seen: AMAU.

48629. U. S. NAVAL CIVIL ENGINEERING RESEARCH AND EVALUATION LABORATORY. Port Hueneme, Calif. Snow-removal operations, winter 1953-54. Port Hueneme, Calif., Oct. 15, 1954. 3 p. l., 50 p. 2 fold. diagrs., illus., 4 tables. (1 fold.). (Its: Project NY 012 021. Technical memorandum M-094).

Tests were carried out at the Brunswick Naval Air Station (Me.) on reversible-type blade plow, rotary snow-plows; torque-converter units, one-way blade-type plows with wings, sand spreaders and a "payloader." The group of equipment tested was considered adequate for the area insofar as major units were concerned. The equipment is illustrated, and test results are discussed for each unit. An operating performance chart is included together with a schematic of the snow-removal plan for the airfield.

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48630. UNITED STATES NAVAL IN-STITUTE. Annapolis, Md. Portable atomic power plant studied for arctic defense. (Its: Proceedings, Jan. 1956. v. 82, no. 1, p. 111.)

Notes the U. S. Army's plan to complete an atomic power plant by the spring of 1957 that can be transported by air, particularly to the Arctic, for heating and lighting purposes. One plane load of fuel would run the plant for three or four years.—From Navy times, Nov. 5, 1955.

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48631. UNITED STATES NAVAL INSTITUTE. Annapolis, Md. USSR ice-breaker with atomic plant. (Its: Proceedings, Sept. 1956. v. 82, no. 9, p. 1016–1018, illus.)

Wider use of atomic energy in the sixth Five-year plan 1956–1960 is noted and project outlined to build an ice-

breaker with atomic propulsion. The new vessel will have a main power plant of 44,000 hp. Its displacement will be 16,000 tons, and stores will suffice for one year without calling at port. Two helicopters will be carried for ice reconnaissance.—From Pravda, Feb. 12, 1956.

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48632. U. S. NAVAL PHOTOGRAPHIC CENTER. Cold weather photography. Washington, D. C., Dec. 1, 1955. xviii, 118 p. illus., diagrs., tables. (*Its*: NAV-AER 10-1-752.)

The effects of temperature, weather, and light conditions in polar areas on photographic techniques, supplies, and equipment are described in detail. Special winterization procedures are outlined which must be followed before equipment is used in cold areas. Light conditions over snow or ice may introduce special problems due to lack of contrast and multiple reflection. Exposure meters are reliable and indispensable for good results in polar areas. Special problems related to processing and storage are also discussed. Aerial, motion picture, and still cameras used by U. S. Navy on cold weather operations are listed, and general cold weather ratings, cold weather malfunctions, and special features are indicated. Foreword, contributed by the Photographic Interpretation Center, stresses uses of aerial photography peculiar to cold regions: in mapping, forecasting, identification of terrain characteristics, etc. Copy seen: DLC.

48633. U. S. NAVAL PHOTOGRAPHIC INTERPRETATION CENTER. Aerial photo analysis of permanently frozen ground. [Washington, D. C.] Pub. by direction of the Chief of the Bureau of Aeronautics, Dec. 1, 1950. vii, 71 p. diagrs., illus., tables, text map. (Its: NAVAER 10–35–562.) 121 refs.

"The terrain features which are identifiable from the air as indicators of permafrost soil conditions are described and illustrated. Included are the various types of polygons, and related features such as peat mounds, pingos, surface water, icing, thermokarst, solifluction, river terraces, landslides, frost cracks, and minor superficial folds. A list of preferred and synonymous technical terms related to permafrost and polygonal phenomena and a bibliography are appended."—SIPRE.

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U. S. NAVAL RESEARCH LABORA-TORY, see Hulburt, E. O. The International Geophysical Year . . . 1955. No. 45641.

48634. U. S. NORTHEAST COM-MAND. Information brochure. 1953. 3 p. l., 56 p., illus., map.

The brochure is designed to familiarize U. S. military personnel and their dependents with the facilities and the mission of the U.S. Northeast Command and its air arm component, the Northeast Air Command. A descriptive review of each of the following bases is given: Pepperrell, Ernest Harmon, and McAndrew Air Force Bases in Labrador; Narsarssuak, Sondrestrom, and Thule Air Bases in Greenland.

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48635. U. S. OFFICE OF NAVAL OPERATIONS. Canadian North. [Washington, D. C.], Technical Assistant to Chief of Naval Operations for Polar Projects (OP-03A3), Apr. 1956. 457 p. 59 illus., 27 text maps, tables. OPNAV PO3-4.) approx. 365 refs.

Prepared under direction of Paul R. Sullivan and compiled by John J. Arens from material assembled since 1951; contributions by Jesse A. Mann, Robert A. Marginot, Richard M. Preece, William J. Smith, Jr., Moira Dunbar, K. R. Greenaway, John C. Martin, and J. Tuzo

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A compilation of geographic information, primarily for military planners and engineers, on the Canadian mainland, north roughly of 55° N. and on Hudson Bay and Baffin Island. Introductory survey is offered (p. 1-15) of the area as a whole, and its subdivisions. The latter are subsequently treated in turn: Yukon, Mackenzie, Keewatin, Baffin Island, "arctic" parts of each province from British Columbia eastward to Quebec and Labrador, etc. Physiography, geology, climate, soil conditions, flora and fauna, hydrology, agriculture, mineral resources, transportation facilities, etc., are stated; detailed descriptions are added of the lake and river basins and the settlements; air photos augment the text. Hudson Bay and Strait: climate, ice conditions, and oceanography are presented by Jesse A. Mann (p. 235-46). The north coast of the Canadian mainland: topography, bays, harbors, rivers, etc. is treated by John C. Martin (p. 341-403). The geology of northern Canada is described by J. Tuzo Wilson (p. 403-424). Selected bibliographies for various regions, and subjects of military studies are appended.

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48636. U. S. OFFICE OF NAVAL OPERATIONS. The dynamic North. [Washington, D. C.] Technical Assistant to Chief of Naval Operations for Polar Projects (OP-03A3), June 1956. 2 v. paged as shown below, with illus., diagrs., tables, maps, and enclosed in loose-leaf binders.

Contains 29 papers assembled under the direction of Ashley C. McKinley, to provide a survey of arctic research; those in v. 1 dealing with geophysical factors, v. 2, engineering procedures; some of the contributions prepared originally for the Encyclopaedia Arctica project of Dr. V. Stefansson, and brought up to date. The papers are by specialists and most are general and descriptive rather than expository in character. All, except two not published, are described under their authors' names, viz:

Vol. 1:

WILSON, J. T. Geophysics. 11 p. PETTERSEN, S., and others. Meteorology of the Arctic. 207 p.

HARE, F. K. Climate of the American

northlands. 33 p.

PUTNINS, P., and N. S. STEPA-NOVA. Climate of the Eurasian northlands. 104 p.

SVERDRUP, H. U. Oceanography

of the Arctic. 32 p.

SVERDRUP, H. U. Arctic sea ice.

SHARP, R. P. Glaciers in the Arctic.

FIELD, W. O. Some aspects of glaciers and glaciology. 19 p.

Benninghoff, W. S. Permafrost. Not published.

WEYER, E. M. Daylight and darkness in the higher latitudes. 22 p.

GARTLEIN, C. W. The aurora borealis. 17 p.

KNAPP, D. G. Arctic aspects of geomagnetism. 65 p.

GUTENBERG, B. Earthquakes in the Arctic Sea. 8 p.

JUNG, G. H. Energy transport by air and sea. 19 p.

GIRS, A. A. Interrelation of processes in the atmosphere and hydrosphere. 45 p.

Warming of the Arctic. Not published.

Vol. 2:

BLACK, R. F. Permafrost as a natural phenomenon. 25 p.

WOODWORTH, R. W. Arctic sur-

veying. 10 p. U. S. ARMY. CORPS OF ENGI-NEERS. Engineering problems and construction in permafrost regions. 53 p.

ANDERSON, L. G., and P. R. MOY-ER. Blasting in surface and drift operations in the far North. 3 p.

DONNELS, A. T. Excavation and foundations. 8 p.

ROBERTS, P. W. Emergency, temporary, and semi-permanent housing for

polar areas. 28 p.

POTTER, W. E. Analysis of design factors for power, heating, ventilation, and refrigeration systems for Alaska.

DONNELS, A. T. Structures in

Alaska. 6 p

RATHJENS, G. W. Construction techniques. 17 p.

GHIGLIONE, A. F. Highways, bridges and protection from ice damage.

LANG, J. D. Construction and maintenance of airfields in the far North, 9 p. HANSEN, R. A. Strength and uses of fresh and salt water ice. 17 p.

STEFANSSON, V. Natural cold stor-Copy seen: DLC. age. 22 p.

48637. U. S. OFFICE OF NAVAL OPERATIONS. Marine climatic atlas of the world, v. 1; North Atlantic Ocean. Washington, D. C., U. S. Govt. Print. Off., Nov. 1, 1955. xvii, 275 p. of maps 35 x 51 cm. (Its: NAVAER 50-1C-528.) 31 refs.

Climatic data for the ocean area from the Equator to approximately 70° N. lat., are presented in graphs, tables, and maps by month and season. Marine observations are supplemented by data from five coastal stations above 60° N. due to the paucity of ship observations in the Arctic. Both surface and upper air data are presented. Emphasis is placed on graphical representation of frequency distribution of individual climatic elements. Copy seen: DLC.

48638. U. S. OFFICE OF NAVAL OPERATIONS. Operational weather of the Northern Hemisphere. [Washington, D. C., U. S. Govt. Print. Off.] May 1, 1955. 2 pt.: vii, 82 p.; 90 p. maps. (NAVAER 50-1C-527A.) 108 refs.

Climatology handbook designed for

operational use, covering two major geographical areas: the Mediterranean, and the Eastern Atlantic-Western European, the latter extending to approx. 80° N. lat. The climatology of these areas is first presented in the traditional manner with standard data for four typical months representing the seasons. In pt. 2, data are reworked and regrouped into a synoptic climatological form for ready reference by the practicing meteorologist. Major emphasis in the synoptic discussion is given to the time and spatial distribution of blocking formation. Copy seen: DLC.

48639. U. S. OFFICE OF NAVAL RESEARCH. Navy cold weather clothing. (Its: Research reviews, Sept. 1956, p. 7-8.)

Winterized clothing adopted officially for naval service in early 1951 is described. The clothing is composed of two basic outfits which are worn together when used in the Arctic. The outer outfit utilizes the double-moisture-barrier principle by enclosing the insulating material between two layers of waterproof, neoprene-coated nylon twill fabric. Threedimensional design features in the clothing are obtained by the use of heavy ridged seams on the jacket arms and sides, and the use of side panels. Nomenclature and description of the clothing are given. Copy seen: DLC.

48640. U. S. OFFICE OF NAVAL RESEARCH. Shipboard ice remover made from pulse-jet engines. (Its: Research reviews, Nov. 1956, p. 11, illus.)

The de-icer burner, originally designed for digging post holes in frozen ground, was modified to remove ice from rigging, winches and other topside equipment of ships. The de-icer consists of a pair of 2.5-in. O. D. valveless pulse-jet engines operating 180° out of phase. Combustion 'gases are collected in a common pressure chamber and passed through an exhaust nozzle. The de-icer weighs less than 12 lb. and can penetrate 7.5 in. of hard ice in one min. Copy seen: DLC.

48641. U. S. OFFICE OF ORDNANCE RESEARCH. Interservice Vehicle Mobility Symposium, held at Stevens Institute of Technology, Hoboken, N. J., 18-20 April 1955. Conducted for the Corps of Engineers, Transportation Corps, and the Ordnance Corps of the U. S. Army. Durham, N. C., 1955. 2 v. Vol. 1 (xxi, 81 l.) contains the minutes,

abstracts and discussions of this Symposium. Vol. 2, pub. by the Land Locomotion Research Laboratory, Detroit Arsenal, Center Line, Mich. (8 p. l., 175 p.) contains 23 papers delivered at its sessions. Six of them particularly relevant to northern conditions are abstracted in this Bibliography under their authors' names, viz.:

FOSTER, C. R., and S. J. KNIGHT. A review of soil and snow trafficability,

p. 1-9.

SIMON, H. P. Transportation Corps in the field of mobility, p. 10-13.

BEKKER, M. G. A proposed system of physical and geometrical values for the determination of vehicle performance and soil trafficability, p. 14–28.

PETERSEN, G. T. Development of new type track by the Ordnance Corps,

p. 56-60

THOMSON, J. G. The performance of tracked and wheeled vehicles in the snow, p. 100-101.

TUCKER, J. T. Mobility problems of the Navy in the Arctic, p. 102-109. Copy seen: DLC.

48642. U. S. PROVING GROUND, Aberdeen, Md. Over-all summary report on winter climatic tests, 1951–1952, 63rd report; OCO project no. TB5–1401. Aberdeen Proving Ground, Md., Oct. 1951. 97, 25 l. illus., maps. Photostat.

Arms, ammunition and related equipment were tested at Fort Churchill, Canada, including three types of American mortars, a Soviet mortar, an American multiple rocket launcher, observing and tracer cartridges, and an ammunition box, to determine their suitability for use under extreme winter and arctic environmental conditions. A general description of the test site, specifications of the equipment, and daily temperatures at the site are included. Complete reports on climatic tests of vehicles conducted at Devils Lake, North Dakota, are included.

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48643. U. S. QUARTERMASTER FOOD AND CONTAINER INSTITUTE FOR THE ARMED FORCES, Chicago. Nutrition under climatic stress; a symposium, Washington, Dec. 4-5, 1952. Edited by Harry Spector and Martin S. Peterson. Washington, D. C., National Research Council, 1954. vi, 204 p. illus. tables.

A review, by research workers, of the

relationship between nutrition and extremes of climatic stress, cold or torrid. The proceedings were expected to provide a compendium of information on special nutrition for the Armed Forces. The material is presented in four groups, with papers concerning cold environment as follows:

Practical problems of Service operations, includes cold climate feeding in Canadian operations by J. G. Armstrong (p. 8–12), dealing with rations, their package size and composition, water; physiological responses of man to cold (or heat) by F. Daniels, Jr. (p. 18–32), covering heat loss, temperature regulation, and reactions to cold.

Animal experimentation, includes an essay on acclimatization to cold, by L. P. Dugal (p. 70–81) based on experiments with guinea pigs, monkeys, etc. and centering on the role of ascorbic acid in this process. E. P. Ralli discusses the effect of some vitamins on man's response to cold (p. 81–90). Protein metabolism in cold or torrid environment is discussed by B. F. Chow and others (p. 91–97). Finally, Sir Hubert Wilkins advances general, practical suggestions on food during arctic expeditions (p. 102–107).

Human experimentation, contains a report by H. H. Mitchell on laboratory studies on nutrient requirements during climatic stress (p. 108-129); and an account of field tests in nutrition and climatic stress by F. Sargent, II.

Present knowledge and research needs are discussed by H. Pollack in a review of lessons from Korea (p. 168-76); E. Pagé reviews the requirements in major nutrients during cold exposure (p. 183-91) and A. Keys and some participants discuss organization and coordination of research (p. 195-203). Each of the four sections contains summary remarks and discussions of the problems presented. Bibliographies follow the individual papers.

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48644. U. S. QUARTERMASTER TECHNICAL TRAINING SERVICE. Cold weather clothing; illustrated instructor's reference to accompany graphic training aids portfolio. Fort Lee, Va., Oct. 1951. 105 p. illus. map.

Text for an illustrated lecture dealing with the use and care of cold weather clothing. Some 50 garments, or featured details are shown in photographs and drawings, with commentaries. Foot- and hand gear, underwear, shirts, trousers,

jackets, and headgear, etc., are dealt with. Copy seen: AMAU.

U. S. SOIL CONSERVATION SERVICE, see Rockie, W. A. Physical land conditions . . . Matanuska . . . 1946. No. 47624.

U. S. SOIL CONSERVATION SERVICE, see also Woodruff, G. A. Report . . . land conditions . . . Susitna River . . . 1955. No. 49003.

48645. U. S. WEATHER BUREAU. Flight briefing guide for arctic meteorological stations. [Washington, D. C.] Apr. 1949. 36 p. 23 illus., 11 text charts.

Contains photographs and charts of the sites of Canadian-U. S. weather stations at Resolute on Cornwallis Island, Eureka on northern Ellesmere, Mould Bay on Prince Patrick, and Isachsen on Ellef Ringnes; also the Danish-U. S. station at Thule, North Greenland. Aerial and surface views of the stations, are shown, also ice and land airstrips, beach areas, ice and snow conditions, with time of year noted on each photo. Air navigation aids (beacons, runway lights, etc.) are indicated on the charts.

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48646. U. S. WEATHER BUREAU. Maximum snowfall depth at selected stations in Canada and Alaska. [Washington, D. C.] 1942. 1 p., table. Typescript. (Its: Special report 106.)

Maximum 24-hr. snowfall for each month at four Canadian stations (among them Watson Lake and Whitehorse, Yukon) and Fairbanks, and maximum snow depth on the ground for each month at Fairbanks are tabulated. The depth of snow at the end of each month is also tabulated for Fort Nelson, B. C., and Fairbanks. No period of record is given.

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48647. U. S. WEATHER BUREAU. Monthly climatic data for the world by continents. Washington, D. C., May

1948-Dec. 1955. 8 v. tables.

Mean monthly data are given for some 700 stations including a few in Alaska, northern Canada, Greenland, Iceland, and in arctic and subarctic areas of Sweden, Norway, and the U. S. S. R. Data include surface temperature, pressure and humidity, total precipitation, and the quintile of the frequency distribution for the precipitation. Upper air data given include the height, temperature, and dew point of the standard

pressure levels. The latitude, longitude, and elevation of the stations are also included. **Copy seen:** DLC.

48648. U. S. WEATHER BUREAU. Plans for installation of joint Canadian-U. S. satellite meteorological stations at Isachsen Land and Prince Patrick Island, N. W. T., Canada. Washington, D. C., 1948. 45 p.

Contains general instructions for personnel engaged in the operations for establishing weather stations during 1948 near 78°50′ N. 104°50′ W. and 76° N. 121°30′ W. Included are schedules of operations, air reconnaissance, preparation of supplies, plane loadings and cargo priorities, initial flights, communications, command, organization, personnel and maintenance duties, emergency procedures, and camp construction and maintenance.

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48649. U. S. WEATHER BUREAU. Report on airlift operations Spring 1950 to joint Canadian-United States weather stations, Isachsen, Mould Bay, Eureka, and Alert, Northwest Territories, Canada. Washington, D. C., Sept. 1950. 62 p. 17 illus., port., text map, 2 diagrs.

Resupply of Isachsen, Mould Bay, and Eureka (125 tons supplies, replacement personnel) is reported, also establishment of a new station at Alert (airlift of 300 tons and 12-man staff). The first two stations were supplied from Resolute, the others from Thule, Mar. 18-June 12. Preparations, actual operations, and construction of airstrips at the stations are described; operations statistics are presented. Recommendations (with diagrs.) for preparation of ice airstrips are appended (p. 49-60).

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48650. U. S. WEATHER BUREAU. Snow cover in European part of U. S. S. R. [Washington, D. C.] 1942. 2 p. fold.

map. (Its: Special report 2.)

The mean, earliest, and latest dates of beginning and end of snow cover are tabulated for 15 stations from Arkhangel'sk in the north to Stalingrad in the south. For 11 of these stations, mean values of deepest snow and month of occurrence are also tabulated. The approximate average duration of snow cover is mapped. *Copy seen:* AMAU.

48651. UPMANIS, K. K. Konstruktsii gazogeneratorov transportnogo tipa sozdannye institutom lesokhoz@Istvennykh problem AN Latvilskol SSR. (Akademifa navuk BSSR, *Minsk*. Instytut torfa. Trudy, 1955. t. 4, p. 257–65, illus., table.) Text in Russian. *Title tr.:* Construction of transport-type gas generators, designed by the Institute of Forest Management Problems of the Academy of Sciences of the Latvian SSR.

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Complications involved in the truck-type gas generator operated on peat brickets and pieces, 6-18 percent ash, are discussed in detail. Ashes melt into slag at temperature over 900° C., cover the grating and reduce gas production. Modification introduced in the furnace construction, especially for periodic shaking of the grating, considerably improved operation of the truck, without poking and slag removing, for 150-350 km. The ZIS-150 automobile made a 400 km. trip without reloading on brickets and one 600 km. on wood blocks.

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48652. URAZOVSKIĬ, S. S., and P. A. CHERNIĀVSKIĬ. Ob osobennostiākh v temperaturnoi zavisimosti viāzkosti pereokhlazhdennykh zhidkostel. (Akademiā nauk SSSR. Doklady, Nov. 21, 1956. t. 111, no. 3, p. 640-43, table, diagr., graph.) 6 refs. Text in Russian. Title tr.: Specific relation of temperature and viscosity of supercooled liquids.

The studies of anomaly in viscosity of oils and petroleum fractions are reviewed with special attention to supercooled liquids. Variation of viscosity is studied in the viscosimeter of high precision equipped with electronic amplifier. The time was recorded within 0.01 sec. and temperature within 0.01° C. The results are tabulated and graphically illustrated. Volumetric increases of viscous liquid in the supercooled phase are explained by formation of kinematically stable aggregates of few molecules, genetically corresponding to the crystallic phase and differing among themselves by number of molecules and their orientation.

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URVANTŠEV, NIKOLAĬ NIKOLAE-VICH, see Geografita v shkole. V nizov'fakh Enisefa i Leny. 1956. No. 45060.

48653. URYVAEV, P. A. Vliânie ledânof korki na stok talykh vod po sklonu. (Meteorologiâ i gidrologiâ, Sept. 1956. no. 9, p. 39-41.) Text in Russian. Title tr.: The effect of an ice crust on meltwater run-off on slopes.

"The formation of ice crusts and the effects of their thickness and structure on meltwater run-off were studied at Valday Hydrological Station in 1952-1955. Run-off increase (to 50 percent) was observed only over a thick ice crust (50 mm. or more). Ice crusts on vegetation-covered slopes melted rapidly around the plants, permitting meltwater penetration under the ice and absorption even by frozen soil. same effect was observed for broken ice crusts. Snow-covered ice crusts, increase greatly in thickness after thaw weather and the rough upper surface becomes smooth after thaws."-SIPRE.

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48654. URYVAEV, P. A. Vodootdacha iz snega v pole i lesu. (Meteorologifa i gidrologifa, July-Aug. 1955, no. 4, p. 36-39, illus., tables, graph.) Refs. Text in Russian. *Title tr.:* Water losses from snow in field and forest.

"Variations in the water equivalent of snow cover and run-off during snow melt were studied in 1953-54 at the Valday Hydrological Research oratory using six specially-designed installations, the construction of which is described. Data on the water equivalent of the snow cover and its variations during melting are tabulated and mathematically analyzed. Melt run-off started at diurnal air temperatures of 3.4° C. in fields and 4.1° C. in forests. initially low melt-water run-off increased as the snow structure changed and the water equivalent decreased during melt-Water losses and run-off intensity also depended on slope exposure."-SIPRE. Copy seen: DLC.

48655. USENKO, V. M., and M. K. BEZHENTSEV. Stroitel'noe proizvodstvo. Izd. vtoroe, perer. i dop. Moskva-Leningrad, 1953. Gos. izd-vo literatury po stroitel'stvu i arkhitekture. 439 p. illus., tables, graphs, refs. Text in Russian. Title tr.: The building industry. 2d rev. enl. ed.

Textbook for foremen and school supervisors approved by the Administration on Education. Ministry of Heavy Industry Construction, U. S. S. R.

Contains description of various methods of construction and assembling of materials, also repair work, preparation of pre-fabricated building parts and sections, etc. Special attention is given to the mechanization and coordination of construction work and also to work under

winter conditions. Thawing of frozen ground with hot water and electric needles is described with illus. (p. 83–87); stone and brick work with the freezing method is explained with detailed instructions for size of stones and concentration of the mortar mixture. Work in heated sheds and with electric heating of concrete is outlined (p. 148–52). Reinforced concrete work with materials pre-heated by steam and electric current is explained in detail (p. 228–35), also (p. 320–21) plastering.

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48656. USHAKOV, GEORGII ALEK-SEEVICH, 1901- . Unbekanntes Inselland. Leipzig, F. A. Brockhaus, 1954. 423 p. illus., sketch map. Text in German. *Title tr.:* The unknown archipelago.

German translation by Horst Wolf of Ushakov's narrative of his exploration of Severnaya Zemlya in 1930–31, originally pub. in 1951 as Po nekhozhenot zemle (No. 26995). Photographs of the Russian edition are omitted; illus. are supplied by G. Schramm.

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48657. USHAKOV, PAVEL VLADI-MIROVICH. Mnogoshchetinkovye chervi semelstva Pisionidae Levinsen iz moref SSSR. (Zoologicheskii zhurnal, Dec. 1956, t. 35, vyp. 12, p. 1809–13, 2 illus., text map.) 9 refs. Text in Russian. Summary in English p. 6–7 in suppl. to vyp. 12. *Title tr.:* Polyechaetes of the family Pisionidae Levinsen inhabiting the seas of the U. S. S. R.

Contains a key and description of two new species, one of them, Pisione longipalpa n. sp. from Kuril-Kamchatka Trench. It was collected by the research vessel Vitîaz' at 918 m. depth, and represents the first record in the northwestern Pacific for this family.

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USHAKOV, PAVEL VLADIMIROVICH, see also Akademiñ nauk SSSR. Zoologicheskii institut. Atlas bespozvonochnykh dal'nevostochnykh more! . . . 1955. No. 43531.

48658. USHKALOV, V. P. Opredelenie davlenifâ fundamenta v ottaivafûshchem osnovanii; po éksperimental'nym materialam. (In: Akademifâ nauk SSSR. Institut merzlotovedenifâ. Materialy k osnovam uchenifâ o merzlykh zonakh zemnoĭ kory, 1956. vyp. 3, p. 135–62,

graphs, tables.) 14 refs. Text in Russian. *Title tr.:* Determination of the foundation pressure on thawing ground; experimental data.

Contains description of method for experimental determination of pressures and settling of natural and thawing ground for buildings and foundations. Basic formulas and their parameters are used according to "Building standards and regulations of 1954" and experience of TSytovich, Lapkin, Ushkalov and other permafrost investigators. Ground of various composition, density, distribution, and ice content was tested, and resulting pressures, absolute and relative settling, and other data are tabulated and graphed.

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48659. USIS. "Neonröhren" über der Arktis. (Universum; Natur und Technik, Aug. 1956. Jahrg. 11, Nr. 16, p. 488-89.) Text in German. Title tr.: "Neon tubes" over the Arctic.

Contains brief discussion of the aurora and airglow, their forms, causes; proposed research on the ionosphere during the IGY., 1957-1958. Copy seen: DGS.

48660. USOVA, Z. V. K biologii i ėkologii moshek (Diptera, Simuliidae) Karel'skoi ASSR i Murmanskoi oblasti (Éntomologicheskoe obozrenie, 1956. t. 35, vyp. 4, p. 840-55, 2 tables.) 10 refs. Text in Russian. Title tr.: On the biology and ecology of blackflies (Diptera, Simuliidae) of Karelian ASSR and Murman province.

Eight types of water basins, from large valley rivers (type 1) to very small streams (type 8) are characterized, on the basis of investigations around Petrozavodsk (Karelia) and Kirovsk (Kola Peninsula). Data are presented on the distribution of larvae and pupae of these blackflies or gnats, and on their migrations in the basins. The factors which affect this family of biting flies are three: those (chiefly temperature) which determine the specific content of the population; factors influencing its size, such as rate of flow and transparency of the water, bottom characteristics, oxygen content and light; chemical characteristics (acidity, alcalinity) also greatly influence development in the aquatic phases of their life. Copy seen: DLC.

48661. USOVA, Z. V. Materialy po biologii i ėkologii moshek (Simuliidae) Karelo-Finskoi SSR i Murmanskoi oblasti. (Akademiia nauk SSSR. KareloFinskif filial. Trudy, 1956. vyp. 4, ser. parazitologicheskafa, p. 131–49, tables.) 27 refs. Text in Russian. *Title tr.:* Materials on the biology and ecology of black flies (Simuliidae) of the Karelo-Finnish SSR and of the Murman Province.

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Based on field work conducted during 1952–1954 in the Petrozavodsk, Kirovsk and the River Lizhma areas. The localities are described; ways of egg deposition, effect of environmental factors on the eggs (low temperature, dryness, etc.), biology of blackflies during the winter are dealt with. Number of generations, phenological data and development of blood-sucking activity of the adults are reported, with consideration of the effect of different factors on this activity.

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48662. USPENSKIĬ, ALEKSANDR ALEKSANDROVICH, d. 1955. O pishchevoĭ tsennosti mtasa losta. (Rafsionalizatsifa okhotnich'ego promysla, 1956, vyp. 5, p. 121–22, table.) Text in Russian. *Title tr.:* Food value of elk meat.

Considerable increase in the stock of elk in the U. S. S. R. is noted. The relative weight of various parts of the carcass are given, together with tabular data on the chemical composition of elk meat (water, protein, fat, ash, etc.) in comparison with that of several other domestic and wild animals. Edible parts of the elk amount to 61.3 percent of the total weight of the carcass.

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48663. USPENSKIĬ, S. M. Pozvonochnye zhivotnye tsentral'noï Arktiki. (Priroda, Aug. 1956. god 45, no. 8, p. 41-46, 2 illus, text map.) Text in Russian. *Title tr.:* Vertebrates of the central Arctic.

Contains a popular account of the Arctic Basin fauna as observed by the Soviet drifting stations North Pole-2 (1950-51), North Pole-3 (1953-54), North Pole-4 and -5. Fishes are represented by at least 15 cold-water species; birds, by 22 species, mostly inhabitants of arctic islands, some wind-driven land birds and migrants; six mammals are reported: polar bear, arctic fox (Alopez lagopus), bearded and hair seals (Erignathus barbatus, Phoca hispida), walrus and narwhal. Fauna is not so scarce as was supposed in the Arctic Basin.

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48664. USTINOVICH, N. Za polîarnym krugom. (Molodoi kolkhoznik, Aug. 1956. god 23, no. 8, p. 3, illus.) Text in Russian. *Title tr.:* Above the Arctic Circle.

Story of a medical aide (feldsher), an Evenki (Tungus) woman named Khristina Botulu. Her activities in the hospital at Yessey (68°30' N. 102°06' E.) in the Evenki National District, a 100 km. reindeer-sled trip to a sick Tungus, etc., are sketched.

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4865. USTINOVICH, N. Zapiski naturalista. (ÎUnyl naturalist, Dec. 1956, no. 9, p. 18–19, illus.) Text in Russian. *Title tr.:* A naturalist's notes.

Several examples are given of animals' and plants' adaptation to environmental conditions; among them the ptarmigan's winter leg feathers, the reindeer's broad hoofs for deep snow travel.

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48666. USTRITSKIĬ, V. I. K voprosu o severnom prodolzhenii Urala. (Akademiña nauk SSSR. Doklady, Sept. 21, 1956. t. 110, no. 3, p. 437–39.) 7 refs. Text in Russian. *Title tr.:* On the question of the northward extension of the Ural.

From the geological survey of the Polar Ural during 1947-52 and investigations of 1953-55, the Pay-Khoy in structural respects seems to be an intermediate continuation of the western slope and central section of Polar Ural, which changed direction from northeast to northwest. It is possible to regard the Pay-Khoy, Vaygach and Novaya Zemlya on the west and Taymyr Peninsula on the east as border sections of the vast Hercynian folding system. The bend of the Ural, Pay-Khoy and Novaya Zemlya is only a part of the general curve of the folding system from meridional to a northwesterly, and then to a northeastern direction. Copy seen: DLC.

48667. UVACHAN, V. N. Sovetskafa Évenkifa. (Leningrad. Universtitet. Uchenye zapiski, no. 115, 1950. Fakul'tet narodov Severa, vyp. 1, p. 117–34.) refs. Text in Russian. *Title tr.:* Soviet Evenkia.

Discusses economic and social achievements of the Evenki (Tungus) under Soviet rule. Selected comparative statistics in absolute figures and/or percentage are given for: reindeer herds (1923–35), kolkhoz incomes (1937–47), agriculture and animal husbandry (1936–45), educa-

tion and school building (1927–47), libraries (1930–47), health services (1932–47) and the participation of natives in local administration (1933–47). Paper presented at the Northern Conference at Leningrad, Dec. 10–14, 1947.

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48668. UZHIK, GEORGIĬ VIKTORO-VICH. Prochnost' metallov pri nizkikh temperaturakh. (Akademiâ nauk SSSR. Vestnik, Aug. 1956. god 26, no. 8, p. 9–14, graphs.) Text in Russian. *Title* tr.: Strength of metals at low temperatures.

Existing methods of determination of mechanical properties of metals are analyzed in respect to rational evaluation of their resistance and strength under effects of low temperatures. Brinell shock test at different temperatures is often used for indication of the "shock elasticity" at the "critical" (lowest) temperature. This method is not satisfactory in practice, because the strength is increased and elasticity reduced at lower temperatures. The elasticity is defined by combination of dynamic stress and deformation. Two metals may have different stresses and deformations, but the same "shock elasticity." The author suggests that the metal be evaluated by its sensitivity to changes in shearing resistances with lower temperatures and that the rational method be developed further for this characteristic.

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48669. UZIN, S. Zagadkowe lądy. Warszawa, Wiedza powszechna, 1952. 80 p. illus., ports., maps. Text in Polish. Title tr.: Mysterious lands. Translated from Russian by A. Zalęski.

Includes brief history of the search for the hypothetical Andreyeva, Sannikova and Petermann lands (p. 40-81). Polish translation of author's Zagadochnye zemli, 1950 (not yet located).

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48670. V., O. Vid Stora Lulevatten; en färd i midnattssolens regioner. (Svenska turistföreningen, Stockholm. Årsskrift, 1894. p. 121–36, 2 plates.) Text in Swedish. *Title tr.:* By Stora Lulevatten; a journey in the region of the midnight sun.

Includes description of an interesting route to the Harsprånget region, Lapp families encountered along the way, their nature and culture, their use of two mountain plants, Rumex acelosa alpina and Oxyria digyna, cooked as a gruel.

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48671. V-FIVE ASSOCIATION OF AMERICA. How to survive on land and sea; individual survival. 2d rev. ed. Annapolis, United States Naval Institute, 1956. 368 p. illus. (The Naval aviation physical training manuals.)

Revised edition of No. 32670A with the addition of a chapter entitled: "Atomic, biological, and chemical warfare."

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48672. VAAGE, JAKOB, 1905—. Roald Amundsens første skiturer til fjells. (Snø og ski. Foreningen til skiidrettens fremme. Årbok 1954. Årg. 60, p. 33–40, port.) Text in Norwegian *Title tr.:* Roald Amundsen's first ski trips in the mountains.

Glimpses of Amundsen's youth in Olso at the end of the 19th century; skiing trips with companions in the mountains in south Norway, details on equipment.

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VAĬOGANT, A. S., see Gusakov, S. F., and A. S. Vaĭogant. Proizvodstvo zemlânykh rabot . . . 1956. No. 45351.

48673. VALENTE, JOSÉ LUIS PULIDO. Fisiologia e patologia da termorregulação. (Jornal do médico 1956. ano 16, no. 691, p. 881–88.) 10 refs. Text in Portugese. Title tr.: Physiology and pathology of thermoregulation.

Contains general information on polkilothermia and homoiothermia; range of human body temperature; maintenance of body temperature; hypothermia and its physiology; heat production; temperature regulation; thermoregulatory centers: nervous and endocrine, etc.

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48674. VALLE, KAARLO JOHANNES, 1887—. Neue Lepidopterenformen aus Finnland. Lepidopterologisches aus dem Museum Zoologieum Universitatis Turkuensis, III. (Suomen hyönteistieteellinen aikakauskirja, 1941. v. 7, no. 3-4, p. 204-206.) 6 refs. Text in German. Title tr.: Lepidopter forms new for Finland. Lepidopterology from the Zoological Museum of the University of Turku, III.

Contains descriptions of ten new forms of lepidopters; among them, Endrosa irrorella f. geogr. borealis n. f. from the tundra of the Petsamo region and probably also from Norwegian Finmark.
Parts I-II of this paper do not contain arctic material.

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48675. VALLE, KAARLO JOHANNES, 1887- Odonata from Newfoundland. (Suomen hyönteistieteellinen aikakauskirja, 1955. v. 21, no. 1, p. 57-60.)

Lists, with notes, 15 species of dragon flies collected in 1949 by H. Krogerus, most of them spreading to Labrador; distributional data on northern Canada and Alaska are supplied.

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48676. VALLE, KAARLO JOHANNES, 1887—. Variabilitätsuntersuchungen an finnischen Odonaten: I, Aeschna juncea L.; II, Aeschna coerulea Ström. (Suomen hyönteistieteellinen aikakauskirja, 1940, v. 6, no. 1–2, p. 14–23, 2 illus., 2 diagr.; (II) 1950, v. 16, no. 3, p. 97–101, illus., 3 diagr.) 11+6 refs. Text in German. Title tr.: Studies of variation of Finnish Odonata: I, Aeschna juncea L.; II, Aeschna coerulea Ström.

Contains study of comparative morphological characteristics of these two species of dragon flies with diagrams of measurements, based on specimens from northern regions of Finland. Copy seen: DLC.

VALLE, KAARLO JOHANNES, 1887–, see also Nordström, F. De fennoskandiska dagfjärilarnas utbredning . . . 1955. No. 47073.

48677. VALLE, OTTO. New agricultural field plants in Finland. (Suomalainen tiedeakatemia. Sitzungsberichte, 1952, p. 143–52, 4 illus., text map.)

Reviews introductions and breeding in Finland since 1917; importance of leafy turnip as a fodder plant in northern Finland and cultivation of winter turnip rape in arctic location are noted.

Copy seen: DGS.

VALLETTE, F., see Frommel, E., and others. De l'influence des substances neuroplégiques . . . la regulation thermique. 1955. No. 44990.

VALLETTE, F., see also Frommel, E., and F. Vallette. De la sensibilité des centres nerveux à la cholinergie . . . regulation thermique 1956. No. 44991.

VAN ALLEN, JAMES ALFRED, 1914 , see Meredith, L. H., and others. Cosmicray intensity . . . high latitudes. 1955. No. 46718.

VAN ALLEN, JAMES ALFRED, 1914—, see also Meredith, L. H., and others. Direct detection of soft radiation . . . auroral zone. 1955. No. 46719.

VAN CITTERS, ROBERT L., see Reissmann, K. R., and R. L. Van Citters. Oxygen consumption and mechanical efficiency. . . hypothermic heart. 1956. No. 47554.

48678. VAN CLEVE, RICHARD, 1906-, and W. F. THOMPSON. A record of the pomfret and barracuda from Alaska. (Copeia, Mar. 31, 1938, no. 1, p. 45-46.)

"One specimen each of barracuda (Sphyraena argentea) and pomfret (Brama raii) was taken in a salmon trap at Cape Uyak (57°38' N. 145°21' W.) on the west coast of Kodiak Island during September 1937." This is the most northerly record for both species. Measurements of both fishes are appended.

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48679. VAN DEN STEENHOVEN, G. Legal concepts among the Caribou Eskimo. (Arctic circular, 1956. v. 9, no. 1, p. 7-9.)

Brief description of writer's field work for three months in summer 1955 with the Padlermiut at Eskimo Point on the west coast of Hudson Bay (61°07' N. 94°03' W.) and with the Ahearmiut at Ennadai Lake, 240 mi. to the west. study of the nature and scope of their "law," he examined the feelings and practices with regard to hunting, food distribution, tribal boundaries, rights of strangers, leadership, group decisions, group discipline, property ownership, inheritance, marriage, and children. The social phenomenon of law does not exist among these Eskimos, but their society is usually a peaceful one, except for the rare case of an habitual trouble-maker.

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VAN DER MAADEN, H., see Stiasny, G., and H. van der Maaden. Über Scyphomedusen . . . 1943. No. 48206.

48680. VANDEVELDE, FRANZ. Religion and morals among the Pelly Bay Eskimos. (Eskimo, Mar. 1956. v. 39, p. 6-16, 13 illus., diagr.)

Contains brief discussion of Eskimo beliefs in spirits, afterlife and taboos. Comparisons are made between certain pagan practices and those of the Roman Catholic Church to explain easy acceptance by the Eskimos of some aspects of

Catholicism. Eskimo "morals" and position of the missionary are dealt with.

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48681. VANDEVELDE, FRANZ. Rules governing the sharing of seal after the "aglus" hunt amongst the Arviligjuarmiut. (Eskimo, 1956. v. 41, p. 3-7, 2

After a community hunt for seal through breathing holes in the ice, sharing must follow well-defined rules, each hunter taking specific pieces of meat and fat determined by hunting partnerships. Three types of sharing partners may be found. Hunters are named by the piece of meat received. Cutting up the seal is described, and names of the shares and corresponding fatty parts are noted (with diagrs.). Custom of hunting partnerships exists in other regions for other Copy seen: DLC. kinds of game.

48682. VAN DYKE, J. G., and others. Survival of Escherichia coli following X-irradiation at different temperatures. (U. S. Atomic Energy Commission. Technical Information Service. Mar. 1956. p. 134-43, illus. tables.) 29 refs. Other authors: E. E. Steiner and H. J.

Gomberg.

Account of experiments with an irradiation sensitive (B) and a radiation resistant (B/r) strain at temperatures of 0° and 30° C. For the B strain the effect of temperature on air-bubbled cultures was small, but the influence on the nitrogenbubbled was marked, the exclusion of O2 protecting the organism at 30° C. but not at 0° C. The effect of temperature on B/r strain under identical experimental conditions was small.

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48683. VAN DYKE, J. G., and others. The survival of Escherichia coli to freezing and drying. (U.S. Atomic Energy Commission. Technical Information Service, Mar. 1956. p. 144-46.) 3 refs. Other authors: C. P. Uhlendorf and H. J. Gomberg.

Cover-slip spreads were rapidly cooled In liquid N, or isopentane chilled with a dry ice and acetone mixture; rewarming was done in diluting fluid of 30-37° C. Survival in various media was studied. Several other rapid freezing methods were also tried. Copy seen: DNLM.

48684. VANIAEV, N. A. Za povyshenie rentabel'nosti rybnol promyshlennosti Kamchatki. (Rybnoe khozíalstvo, Dec.

1956. god 32, no. 12, p. 38-40.) Text in Russian. Title tr.: Increasing the profitableness of Kamchatka's fishing industry.

Account of development and current value of this industry; its weakness: insufficient mechanization and, particularly, fragmentation into too small units, both causing high cost of production. Suggestions are made to rectify this, also to improve storage, refrigeration, transportation, housing for the fishermen, etc.

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MIDDLESWORTH, LESTER, 1919- , see Intoccia, A., and L. Van Middlesworth. Alterations . . . iodide metabolism . . . during cold exposure. 1956. No. 45712.

VANNIER, J., see Laget, P., and others. Effets de l'ion calcium . . . 1955. No. 46208.

VANNIER, J., see also Laget, P., and others. Effets des variations thermiques lentes . . . 1956. No. 46210.

48685. VAN STONE, JAMES WIL-LARD, 1925- . Dendrochronology in Alaska. (In: Alaskan Science Conference ... 1953. Proceedings, pub. 1956, p. 164-67.) 13 refs.

Contains information on methods of tree-ring analysis, with emphasis on work in Alaska. Trees along northern rivers and tundra tree-line show climatic response similar to those on mountain treelines in the interior. Use of dendrochronology by Giddings and others to date Eskimo sites and to study ocean currents (through driftwood) and the reactions of Alaska trees to climate is described. Further study and refinement of methods may provide more complete picture of past climates than can now be determined. Copy seen: DGS.

48686. VAN WINKLE, MARGARET E., and W. L. SCHMITT. Notes on the Crustacea, chiefly Natantia, collected by Capt. Robert A. Bartlett in arctic seas. (Washington Academy of Sciences. Journal, Aug. 15, 1936. v. 26, no. 8, p. 324-31.)

Twenty-seven species are listed with Localities where distributional data. Bartlett collected them are given: Laborador coast, Baffin Bay, Ellesmere Island, West and East Greenland, Bering Sea and Alaska. Another list of crustaceans from the stomach contents of whales, seals, and fish, is appended. Copy seen: DLC. 48687. VARENYSHEV, B. V. Prostefshie ukrytifâ ot kholoda i nepogody. Moskva, Voen. izd-vo Ministerstva oborony SSSR, 1955. 64 p. illus., diagr. Text in Russian. *Title tr.:* Simple protection from cold and bad weather.

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l, d Various types of tent, and construction of shelters, huts, dugouts (mud hut), etc., in open country and the bush are described for temporary or seasonal living quarters. Provisions for heating (including open fires), ventilation, drainage and insulation are outlined for different weather conditions. Building shelter of snow or ice blocks is explained (p. 50–57); protection of motor vehicles and food storage are also outlined.

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VARIAN ASSOCIATES, see Rempel, R. C., and R. Gang. Crevasse detection studies . . . 1956. No. 47557.

VARLAMOV, V. S., see Khorev, B. S., and V. S. Varlamov. V srednem Priangar'e. 1956. No. 45966.

VARS, HARRY MORTON, 1903—, see Ben, M., and others. Hepatic hypothermia and arterialization . . . 1956. No. 43949.

VARS, HARRY MORTON, 1903—, see also Jensen, J. M., and others. Possibilities . . . differential brain cooling . . . dogs. 1956. No. 45787.

48688. VARSONOF'EVA, VERA ALEK-SANDROVNA, 1889— Moskovskoe obshchestvo ispytateleľ prirody i ego znachenie v razvitii otechestvennoľ nauki. Izd-vo Moskovskogo universiteta, 1955. 100 p. illus., ports. 35 refs. Text in Russian. *Title tr.:* The Moscow Society of Naturalists and its importance in the development of science in Russia.

Contains an historical account of one of Russia's oldest scientific societies prepared in celebration of its 150th anniversary (1805-1955) and the 200th of Moscow University (1755-1955), closely associated with the Society from its beginning. Founded in 1805 by Prof. G. J. Fischer von Waldheim and a group of professors of the University, the Society has had an important part in the promotion and dissemination of science, especially natural history, in Russia. It has published several scientific journals (Bulletin, Journal, Mémoires, Nouveaux mémoires, Zapiski, and Vestnik estestvennykh nauk) earlier in French, latterly in Russian; and it has sponsored many expeditions

for study of the geology, paleontology, botany and zoology of Russia. The most important of these was the botanical expedition of G. S. Karelin and J. P. Kirillov into central Asia (Altay Mts., Dzhungaria and Semirech'ye) in 1839-41 (p. 21-25). The first exploration of Kamchatka Peninsula by O. Khun'in 1808, and G. J. Langsdorff in 1812, and the investigation of Ural Mts. by G. E. Shchurovskii in 1838, were also sponsored by the Society. Biographical notes on its presidents and on many prominent scientists and explorers are included. Changes in the Society's organization and activities in the Soviet period are described (p. 70-100). At present, it has three large groups (otdely): Biological, Geological-geographical, and Agricultural, which are subdivided into 16 sections (zoological, botanical, anthropological, etc.). The role of the Moscow Society of Naturalists during the 150 years of its existence has been so outstanding that it can be compared only with that of the Academy of Sciences of the U.S.S.R. Copy seen: DLC.

48689. VASHLĀEV, F. V., and N. A. KOTOV. Kruglogodovoe stroitel'stvo lezhnevykh dorog. (Lesnafa promyshlennost', Sept. 1956. god. 34, no. 9, p. 11–13, illus.) Text in Russian. *Title tr.:* Year-round construction of log roads.

Importance of good roads for efficient output by remote timber camps is discussed. Different methods of log-road construction are outlined for dry, wet and soft ground. Coordinated construction is continued during winter and summer seasons. About 50 percent relative increase in production is shown from camps with log roads. Copy seen: DLC.

48690. VASIL'EV, A. A., Editor. Dorozhnostroitel'nye mashiny; spravochnik.
2. perer. i dop. izd. Moskva. Gos. nauchno-tekhn. izd-vo mashinostroit. litry, 1955. 832 p. illus., tables, diagrs.
28 refs. Text in Russian. Title tr.: Road construction equipment; handbook. 2nd ed., rev. and enl.

Methods of road construction, repair, and maintenance are described in detail with emphasis on equipment used in the U. S. S. R. after the war. Regular removal of snow of different thickness is discussed in detail (p. 101-104). Work of plow and snake-rotary types and of snow-loading machine is described with illus. and tabulation of technical and performance characteristics. Kinematic

schemes of operating gears are shown (p. 489-505) for plow and snake equipment and for loading machine.

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VASIL'EV, B. A., see Ivanov, S. V., and others. Orochi. 1956. No. 45741.

VASIL'EV, B. A., see also Ivanov, S. V., and others. Oroki. 1956. No. 45742.

VASIL'EV, B. A., see also Levin, M. G. Eveny. No. 46330.

VASIL'EV, G. M., see Kanaev, N. P., and G. M. Vasil'ev. O roli russkol literatury v . . . fakutskol . . . 1955. No. 45865.

VASIL'EV, Ū. M., see Kharkhuta, N. Â., and Ū. M. Vasil'ev. Vozvedenie nasypei . . . 1956. No. 45956.

48691. VASIL'EV, IVAN MITRO-FANOVICH, 1891— . Zimovka rastenii. Moskva, Izd-vo Akademii nauk SSSR. 1956. 308 p. illus., tables. Approx. 1,300 refs. Text in Russian. *Title tr.*: Win-

tering of plants.

Contains a study of current ideas on the wintering of plants and their practical application, based to a great extent on author's studies in various Soviet regions, including subarctic areas. Part 1 (p. 5-83) deals with early and recent notions on freezing of plants; the effects of cold, moisture and ice cover; of winter dryness and wind, etc. Pt. 2 (p. 84-211) covers the problem of cold resistance (hardiness) and external factors determining it (temperature, humidity, light, etc.); the effect of autumn growth on hardiness; reserve substances, water content, pH, colloidal changes, conditions of growth, winter rest, and other factors as they affect cold resistance; principles of increasing the hardiness of plants. Pt. 3 (p. 212-61): cold resistance in nature and plant culture; its characteristics; types of hardy plants; creation of winter resistance; role of hybridization and selection in this process; role of nutrition; etc.

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48692. VASIL'EV, VIKTOR NIKO-LEAVICH, 1890—. Rastitel'nost' Anadyrskogo krafi. Moskva, Izd-vo Akademii nauk SSSR, 1956. 218 p. illus., tables, fold. maps. 76 refs. Text in Russian. *Title tr.:* The vegetation of the Anadyr' land.

A study based on work of the 1932– 1933 Chukotsk-Anadyr' Expedition of

the Far Eastern Bureau of Goszemtrest. on which the author led the four-man geobotanical party. He aimed to complement work of others in 1931-32 mainly on the forest tundra (cf. No. 17728, 12159, 12152). His itinerary was from the Anadyr' estuary to Markovo, thence into the Mayn basin, and to Lake Krasnoye, the Belaya River and Mukhomornaya River to Markovo. Introductory survey is given (p. 1-22) of expeditions in the area, its physical geography, location and size, rivers and lakes, climate. early glaciation. The plant cover is treated in detail (p. 23-178), its general character, phytocoenotic types and their component species: mountain tundra: shrub, typical, and lowland tundra; vegetation of the valleys; deciduous foresttundra. Following brief account of forest and hay sources, classification of the stands of Siberian larch (Larix dahurica) in the Anadyr' basin is dealt with (p. 179-95); and aims stated in further geobotanical studies of the area. Plants included in the study are indexed, also taxonomically grouped, at end. The study had a practical purpose, viz. to determine food sources and possibilities for reindeer farming. Copy seen: DLC.

48693. VASILEVICH, GLAFIRA MAKAR'EVNA, 1895— . Évenki. (*In:* Akademíñ nauk SSSR. Institut étnografii. Narody Sibiri, 1956. p. 701–741, illus. incl. plates.) 78 refs. Text in Russian. *Title tr.:* Evenki.

This Tungus people, reindeer-herders in the north, cattle-breeders or farmers in the south, are most numerous and dispersed of all the so-called small peoples of the North: over a 21/2-3 million sq. km. area from the Yenisey, Nizhnyaya and Podkamennaya Tunguska northeast to the Lena River and Laptev Sea, and south to Lake Baykal and Mongolia. Their history, economy, and culture generally are described; and population statistics for 1926 are given: 38,804, excluding the settled Evenki farmers of Their tribal the Trans-Baykal region. divisions, warfare and blood feud, trade relations, etc. with the Russians are described. Their class society, relatively high position of women, marriage customs (levirate practiced but union of elder brother with widows of younger brothers prohibited), their religious beliefs (animism, shamanism, cosmogony, bear cult), folklore and music are treated in turn. Post-Revolution changes in these customs and social organization are discussed in conclusion: the territorial administration, settling of nomad groups, collectivization, kolkhoz economics, and selected statistical data are given. New medical services and educational facilities are noted. Modern Evenki writers and artists are named and their works cited. The collaboration of A. V. Smolfak and use of the late N. P. Nikul'shin's materials are acknowledged.

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48694. VASILEVSKAĀ, N. D. Nizhnemelovafā flora severnoī chasti Lenskogo basseīna. (Akademīfā nauk SSSR. Doklady, June 11, 1956. t. 108, no. 5, p. 913—15.) 7 refs. Text in Russian. *Title tr.*: The lower Cretaceous flora of the northern Lena River basin.

This fossil flora, studied in 1952, is subdivided (upward) into three floral complexes: kyusyur, bulun, and ogoner-yurakh; typical plants are listed for each complex. The flora of the Lena series is allied to those of Spitsbergen, Alaska, Examples and Company Legal Park.

Franz Joseph Land, and (especially) of the Kolyma, Sangar and Bureya regions of Siberia. Copy seen: DLC.

48695. VASILISKOV, P. A., and others. Izuchenie zazhorov i raschet maksimal'nykh zazhornykh urovnet pri proektirovanii GÉS. (Gidrotekhnicheskoe stroitel'stvo, Apr. 1956. god 25, no. 3, p. 37-39, table, graphs.) ref. Text in Russian. Other authors: Th. L. Gotlib, E. E. Zalmin, N. I. Smolin, and A. K. Klimenko. Title tr.: Study of ice-jams and computing their maximum levels for design of a hydro-electric station.

Ice jams in the upper stretches of the Angara River were studied from 1949-1954 to assess winter operating conditions for a hydro-electric plant. Mathematical analysis of the data collected shows an increase in the intensity of underwater ice formation with decrease in air temperatures. The amount of underwater-formed ice was also proportional to the duration of ice-jam formation. These functional interrelations and their effects on waterlevel variations are calculated for the temperature range between the freezing point and -37° C. The functional dependence of ice-jam intensity on air temperatures and the duration of frost action was also determined for other parts of the Angara. Copy seen: DLC.

VASIŪTIN, V. F., see Bal'zak, S. S., and others. Economic geography . . . U. S. S. R. . . . 1952. No. 43857.

48696. VASIŪTIN, VASILII. Remaking our industrial geography. (News, May 1, 1956, no. 9 (116), p. 4-6, map, graphs.)

Includes mention of hydro-electric power stations (planned and under construction) on the Angara, Yenisey, and Ob Rivers.

Copy seen: DLC.

48697. VAS'KOVSKIĬ, A. P. Novye ornitologicheskie nakhodki na severnom poberezh'e Okhotskogo morâ. (Zooligicheskiĭ zhurnal, July 1956. t. 35, vyp. 7, p. 1051–1058.) 6 refs. Text in Russian. *Title tr.:* New ornithological finds on the northern coast of the Okhotsk Sea.

Contains an annotated list of 28 species of birds collected or observed mostly in the vicinity of Magadan. The local avifauna is of three main kinds: birds native to more southern regions, species common in tundra and tundra-forest zones, and alpine species common in the mountain belt of eastern Asia. Copy seen: DLC.

48698. VAUGHAN, ELIZABETH. Time of appearance of pink salmon runs in southeastern Alaska. (Copeia, Apr. 20, 1947, no. 1, p. 40–50, 4 diagrs., 2 tables.)

Contains study of observed changes in the time of the runs. Pink salmon (Oncorhynchus gorbuscha) may be divided into two distinct populations: that of even and odd years. The migration of adults occurs in July, August and part of September. From daily catch records, the date by which 75 percent of the trap catch was made, has been computed and used as an index of the time of the run. Truncation dates for 22 sections of the region are tabulated, also index values for years 1926 through 1944.

Copy seen: DLC.

48699. VAUGHAN, ELIZABETH. The use of catch statistics for estimating parameters of the pink salmon migration pattern in Icy Strait. (*In:* Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 78–86, diagrs., map.)

A study undertaken to determine whether the spawning migration of pink salmon follows a definite pattern of distribution from year to year, and if so, to appraise this distribution. Avenues and periods of migration, catch statistics since 1908, etc., are evaluated, and statistical data are used for developing a mathematical procedure "valuable in deriving indices of the spawning migration."

Copy seen: DGS.

48700. VAUGHAN, JOHN A., and F. DANIELS, Jr. The physiology of load carrying, IX; the energy cost of sled pulling by one man. Natick, Mass, 1956. 25 p. illus., tables, graphs, appendices A-D. (U. S. Quartermaster Research and Development Command. Environmental Protection Division. Technical Report EP-26.) 23 refs.

"The energy cost of sled pulling and the drag imposed by the sled has been measured with net loads ranging from 53-196 lb. on the 200-lb. capacity plastic boat-type sled. The relationship between load and drag under the conditions of level snow in treeless areas at air temperatures from about 0°-40° F. is approximately linear and a prediction formula has been calculated. formula has been derived to estimate energy expenditure from drag. The data show that the mechanical components of softness and depth of snow result in greater physiological strain than the frictional elements due to low snow temperature or grain form. The effects of snow temperature could not be clarified in the relatively small temperature range studied. The snow characteristics. of course, affect the man's traction as well as the drag resistance of the sled. Evidence is presented that a pay load of 125 lb. (15 lb. pull) at a speed of 2 mi./hr. can be considered an "optimum" compromise between work accomplished and physiological strain in sled pulling by one man over level snow."-Author's abstract. Copy seen: DNLM.

48701. VAURIE, CHARLES. Systematic notes on palearetic birds; no. 21, Fringillidae: the genera Pyrrhula, Ephona, Coccothraustes, and Mycerobas; no. 23, Fringillidae: the genera Emberiza, Calcarius, and Plectrophenax. New York, 1956. 2 pt.: 24 p.; 27 p. (American Museum of Natural History, New York. American Museum Novitates, no. 1788, no. 1805.)

Includes (in no. 21) critical notes and graphic illustration of geographical variation in wing length of Pyrrhula pyrrhula occurring in Arkhangel'sk province; two varieties of this species, jenisseiensis (Yenisey River) and cassini (Kamchatka) are discussed. No. 23 deals with three species of Emberiza, from Yakutia, the Anadyr' region and Kamchatka; also Calcarius lapponicus (Lapland and Greenland) and its varieties in the Commander Islands, Kamchatka and Alaska; and

with Plectrophenax nivalis, six subspecies occurring in Greenland, Lapland, Pribilof Islands, the Aleutians and Vrangel Island. The earlier parts of this series which include arctic material are listed as No. 38055 and No. 43143 of Arctic Bibliography.

Copy seen: DSI.

48702. VDOVIN, INNOKENTIĬ STE-PANOVICH. K istorii obshchestvennogo strofa chukcheľ. (Leningrad. Universitet. Uchenye zapiski, no. 115, 1950. Fakul'tet narodov Severa, vyp. 1, p. 73–100.) 35 refs. Text in Russian. *Title tr.:* History of the social organization of the Chukchis.

Historical outline of the Chukchis from their first appearance on Chukotka in the first millenium A. D. through the 19th century. Influence of indigenous Eskimo culture, relationship and continuous armed conflicts with Koryaks, Yukaghirs and, later, Russians are noted. Their original reindeer hunting and later reindeer herding and sea mammal hunting economies are described. marriage customs, the transition from matriarchate to patriarchate and progressive rise of class distinction, based on reindeer ownership, are discussed. Paper presented at the Northern Conference at Leningrad, Dec. 10-14, 1947.

Copy seen: DLC.

48703. VEBÆK, CHRISTEN LEIF. Mellembygden. (Grønland, Mar. 1956, nr. 3, p. 92-98, illus., map.) Text in Danish. *Title tr.*: Mellembygden.

Excavations were carried out in summer 1954 by the writer's five-man party in the area around Arsuk-Ivigtut, West Greenland. This area, called Mellembygden by archeologists, was probably the northwesterly outpost of the Norsemen's communities in Østerbygden (the Julianehåb district); 22 groups of ruins and six separate houses are known. Three sites were excavated; little remains of the houses and finds were few. The area was probably abandoned some time after Vesterbygden, in the Godthåb district, was (1370) but before the destruction of Østerbygden. Copy seen: DLC.

48704. VEBÆK, CHRISTEN LEIF. Vatnahverfi. (Grønland 1953, hefte 6, p. 219–24, illus., map.) Text in Danish. Title tr.: Vatnahverfi.

Contains a survey of excavations in Vatnahverfi (the lake area); settled by the Norsemen, it is situated in the inner part of a peninsula between Igaliko Fjord (60°45′ N. 45°30′ W.) and Agdluitsoq Fjord (60°30′ N. 45°30′ W.) West Greenland; 35–40 farmsteads and two churches are known in the area. Some of the finds made during the Danish National Museum's expeditions in 1949 and 1950, of which the author was a member, are described.

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VEER, GERRIT DE, fl. 16th century. see Pasetskif, V. M. Villem Barents. 1956. No. 47266.

48705. VEGARD, LARS, 1880—, and G. I. KVIFTE. An auroral spectrogram and the results derived from it. Oslo, Grøndahl & søn, 1951. 23 p. diagrs., tables. (Geofysiske publikasjoner, v. 18, no. 3.) 14 refs.

A spectrogram obtained with a newly-designed instrument during a brilliant auroral display at Oslo on the night of Feb. 23–24, 1950, is reproduced, and the auroral lines are interpreted. The spectrograph remained in the same position, and the exposure lasted for nearly 10 hrs. About 114 bands and lines were measured with a comparator directly from the negative; more than 50 were not previously detected. Greater magnification indicated the total number of measured bands and lines amounted to about 375, about 310 of which had not been detected or measured previously.

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48706. VEGARD, LARS, 1880-Nordlyset og spektralanalysens anvendelse ved studiet av nordlyset og de høieste luftlag. (Naturen, July-Aug. Arg. 50, nr. 7-8, p. 193-217, 1926. Text in Norwegian. 6 illus., diagr.) Title tr.: Northern lights and the use of spectral analysis in studies of the northern lights and the highest atmospheric layers.

Because the auroral belt, centered around the magnetic pole, passes between Finnmark and Spitsbergen, Norway is a good place for study of the phenomena. Photographic studies introduced by Størmer and the theory of Birkeland are discussed, as well as recent investigations in spectral analysis by the author at the Geophysical Institute at Tromsø.

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48707. VÉGHELYI, PETER, and L. HÁRSING. Nierenfunktion in Hypothermie. (Klinische Wochenschrift, Oct. 1955. Jahrg. 33, Heft 37–38, p. 908–909,

illus.) 7 refs. Text in German. *Title* tr.: Kidney function during hypothermia.

Quantity of plasma did not decrease down to a body temperature of 29° C. Between the latter and 24° C. it dropped by 50–70 percent with glomerular filtration diminishing somewhat less; filtration fraction was somewhat higher. Electrolyte excretion remained unchanged, occasionally even rising. Diuresis behaved similarly but slowed down when body temperatures became low.

Copy seen: DNLM.

VÉGHELYI, PETER, see also Hársing, L., and others. Hypothermia hatása . . . 1956. No. 45458.

48708. VEĬNBERG, BORIS PETRO-VICH. Chislovye kharakteristiki uslovii prevrashcheniiā vodiānogo para i zhidkoī vody v tverdoe sostolānie. (*In his and* others: Led . . . 1940, p. 92–170, 496–500, 510–11, illus., tables, diagrs., graphs) 198 refs. Text in Russian. *Title tr*: Numerical characteristics of conditions for transformation of vapor and liquid phases of water into the solid state.

The thermodynamics of phase transformation are discussed including the specific heat of ice and supercooling of Data on the heat of fusion and densities of fresh- and salt-water ice at various temperatures and salinities are reviewed from 1870. Spontaneous crystallization of supercooled water is described and crystal formations are depicted. A mathematical analysis of the friction of ice with experimental data on the resistance of sled runners to ice is included. Copy seen: DLC.

48709. VEĬNBERG, BORIS PETRO-VICH. Genezis i osobennosti razlichnykh form vodnogo l'da. (*In his and others*: Led . . . 1940, p. 347-70, 500-510, illus., tables, graphs.) 47 refs. Text in Russian. *Title tr*: Origin and characteristics of ice formed on water surfaces.

Precipitation of ice in various forms is described with reference to the causes of formation and their physical characteristics. The formation of ice in waters is classified according to place of formation (ponds, lakes, rivers, streams, sea, etc.) and the type of physical processes (initial ice cells, local surface growth, slush, sludge ice or "shuga", bottom ice, etc.). Thermal conditions preceding ice formation in water are analyzed. Ice formation in sea water is described in the

appendix (p. 500-510) with consideration of salinity and porosity of ice structure and expressed and illustrated on the basis of data given in five tables.

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48710. VEĬNBERG, BORIS PETRO-VICH. Genezis i osobennosti razlichnykh vidov sublimatsionnogo l'da. (In his and others: Led . . . 1940. p. 314-38, illus., table, diagr.) 46 refs. Text in Russian. Title tr: Origin and characteristics of ice formed through sublimation.

Sublimated ice and its formation in the atmosphere are described with reference to the literature and the author's observations. Ice clouds with concentrated super-saturation and crystallic fog over dry areas stimulate the fall of crystals and droplets. Sizes and forms of snow flakes and ice crystals are related to meteorological conditions during their fall. Conditions for various types of precipitation (snow flakes, granular snow, hoarfrost, sleet, etc.) are outlined. Dendritic ice formations on glass windows are analyzed.

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48711. VEÏNBERG, BORIS PETRO-VICH, and others. Led, svoistva, vozniknovenie i ischeznovenie l'da. Moskva, Gos. izd-vo tekhniko-teoreticheskol lit-ry, 1940. 524 p. illus., tables graphs, diagr., map.) Refs. Text in Russian. *Title* tr: Ice, the properties, origin and disappearance of ice.

Comprehensive work, essentially a recapitulation of Dobrowolski's classic study, *Historja naturalna lodu*, pub. 1923 (No. 4027–4028 of *Arctic Bibliography*) with additions by Veinberg and eight other scientists. The 17 chapters are described individually in this Bibliography under their authors' names, viz.

(titles tr.):

VEINBERG, B. P. Thermodynamics

of water transformation.

VEINBERG, B. P. Numerical characteristics of conditions for transformation of vapor and liquid phases of water into the solid state.

VEINBERG, B. P., and A. F. KAZAN-SKII. Mechanical, optical and other

properties of ice.

AL'TBERG, V. A. Ice structure.

VEINBERG, B. P., S. M. GOR-LENKO, and A. B. DOBROWOLSKI. Some properties of the snow cover.

VEINBERG, B. P., M. P. GOLOV-KOV, and A. B. DOBROWOLSKI. General crystallography of ice. VEINBERG, B. P., A. B. DOBRO-WOLSKI, and M. P. GOLOVKOV. General petrography of ice.

VEINBERG, B. P. Formation of ice

in the atmosphere.

VEINBERG, B. P. Origin and characteristics of ice formed through sublimation.

TIKHOMIROV, E. I. Optical phenomena in the atmosphere caused by the presence of ice crystals.

VEINBERG, B. P. Origin and characteristics of ice formed on water surfaces. ARNOL'D-ALÂB'EV, V. I. Forms of ice cover over bodies of water.

VEINBERG, B. P., A. A. SHEPE-LEVSKII, and V. I. ARNOL'D-ALIAB'-EV. Growth and disappearance of ice cover.

VEINBERG, B. P. and S. M. GOR-LENKO. Snow cover and its dynamics. VEINBERG, B. P. Glaciation.

SUMGIN, M. I. Ice in permafrost. MIRCHINK, G. F. General geology of ice. *Copy seen:* DLC.

48712. VEÏNBERG, BORIS PETRO-VICH. Lednikovyĭ pokrov i ego sud'by. (In his and others: Led . . . 1940. p. 441-59, illus., table, graphs, diagr.) 17 refs. Text in Russian. Title tr.: Glaciation.

Ice velocities in various glaciers are analyzed on the basis of previous observations. Average velocities at cross-sections of different glaciers are graphically represented. Kinematics of glacier movements are discussed and analytically formulated.

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48713. VEÏNBERG, BORIS PETRO-VICH, and A. F. KAZANSKII. Mekhanicheskie, opticheskie i drugie svoïstva l'da. (In: Veïnberg, B. P., and others: Led . . . 1940. p. 171–227, 511–16, illus., tables, graphs, diagr.) 119 refs. Text in Russian. Title tr.: Mechanical, optical and other properties of ice.

The classification of the mechanical properties of ice is criticized; a new classification based on the elastic, plastic, and brittle properties is suggested. The plasticity of ice is discussed on the basis of the relaxation theory. Determinations of Young's modulus of elasticity for ice by various investigators are reviewed, tabulated and compared with Poisson's ratio. The behavior of ice under a load in excess of the elastic limit is mathematically formulated and is related to the internal friction of ice. Experimental results of ice plasticity by other investi-

gators are summarized, and data on the electrical, magnetic and optical properties of ice are tabulated and graphed.

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48714. VEÏNBERG, BORIS PETRO-VICH, and others. Nekotorye svoſstva snezhnogo pokrova. (In his and others: Led . . . 1940. p. 239–58, tables, graphs.) 47 refs. Text in Russian. Other authors: S. M. Gorlenko and A. B. Dobrowolski. Title tr.: Some properties of the snow cover.

The mechanical and physical properties of snow (density, cohesion, friction, strength, etc.) are tabulated for various forms of snow. Difficulties in determining these properties are described and the factors affecting them are discussed.

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48715. VEÏNBERG, BORIS PETRO-VICH, and others. Obshchaîa kristallografiā l'da. (In his and others: Led... 1940. p. 259-84, illus., diagr.) 52 refs. Text in Russian. Other authors: M. P. Golovkov, and A. B. Dobrowolski. Title tr.: General crystallography of ice.

Contains general review of various snow-crystal classifications of various investigators since 1847. The crystal-lography of fresh- and sea-water ice is discussed with respect to the various structures.

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48716. VEĬNBERG, BORIS PETRO-VICH, and others. Obshchaſa petrografiſa l'da. (In his and others: Led . . . 1940. p. 285-94, illus., diagr.) 3 refs. Text in Russian. Other authors: A. B. Dobrowolski and M. P. Golovkov. Title tr.: General petrography of ice.

Magmatic ice varieties are described and divided into three types: I, ice originated in solid magma (lake ice, shuga and underwater ice); 2, ice from particle magma (hoarfrost); and 3, ice in frozen ground. The discussion on precipitated ice varieties includes: snow cover (crystallic), firn snow, firn ice and glacier ice. Petrography of ice in the Kara Sea is described, including a diagram of interrelation of different textures and structures of ice, such as grain, pseudo-grain, foliated, columnar (basaltic), vesicular, fibrous and laminated.

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.48717. VEĬNBERG, BORIS PETRO-VICH, and others. Rost i ischeznovenie lediânogo pokrova. (In his and others: Led . . . 1940. p. 392-409, illus.) 33 refs. Text in Russian. Other authors: A. A. Shepelevskii and V. I. Arnol'd-Alfâb'ev. Title tr.: Growth and disappearance of ice cover.

The change in ice thickness with time is mathematically expressed based on J. Stefan's work on the growth of ice in water and using a correction for ice surface temperature due to changes in air temperature. The thickness of ice is computed with geophysical, thermo-physical and climatological-empirical formulas. The thawing process with and without snow cover is indirectly related to the freezing method. Ice formed from slow crystallization, also disintegrates by decomposition of the crystals.

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48718. VEÏNBERG, BORIS PETROVICH, and S. M. GORLENKO. Snezhnyl pokrov i ego dinamika. (In: Veĭnberg, B. P., and others: Led . . . 1940. p. 410-40, illus., table, graph, diagr.) 28 refs. Text in Russian. Title tr.: Snow cover and its dynamics.

Characteristics of fresh and old snow covers are described with the classification tables given by W. Paulcke, Seligman and A. V. Molochnikov. Various shapes of snow drift formations behind obstructions are analyzed and illustrated.

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48719. VEĬNBERG, BORIS PETRO-VICH. Termodinamika prevrashchenifa vody. (In his and others: Led . . . 1940. p. 13–91, illus., tables, diagr., graphs.) 58 refs. Text in Russian. Title tr.: Thermodynamics of water transformation.

Ice forms are classified and defined and their geophysical significance is discussed. The physical changes of water on freezing are mathematically expressed with the three phases, ice-water-vapor, considered in turn. The theory of regelation is explained.

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48720. VEÏNBERG, BORIS PETRO-VICH. Vozniknovenie l'da v atmosfere. (In his and others: Led . . . 1940. p. 297-313, illus., tables.) 19 refs. Text in Russian. Title tr.: Formation of ice in the atmosphere.

Conditions for vapor formation, saturation and crystallization in the atmosphere are described. Non-stability of water vapor, pressure in the upper atmosphere at various temperatures and altitudes causes super-saturation or ice formation. The experiments on artificial production of fog at a temperature of  $-35^{\circ}$  C. by Thompson are described in connection with ice crystallization and determination of sizes of water drops. Sea salt particles stimulate condensation and serve as the centers for ice formation. Formation and development of snow flakes or ice crystals are described.

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48721. VELICHKO, V. Siânie severa. Moskva, Izd-vo "Pravda," 1946. 38 p. Text in Russian. *Title tr.:* The radiance of the North.

Popular sketches of the discovery and exploration of coal deposits in Pechora River basin and the development of coal mining in Vorkuta; importance of a northern coal supply for Leningrad during World War II is stressed.

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48722. VELLER, M. A. Gidrotorf. Moskva, Gos. énergeticheskoe izd-vo, 1946. 220 p. illus. tables, graphs. Text in Russian. Title tr.: Liquid peat. Textbook approved by the Labor Administration of the Peoples Commissariat on Electric Stations of the U. S. S. R. for the workers' training schools.

Contains description of the pumping, excavating and other equipment and processes used in the gradual recovery of liquid peat suitable for fuel. Various practical methods are described for the economic arrangement of work in preparation of the fields for settling, in cutting of the bricks, drying and transporting them on schedule before the winter season.

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48723. VELLER, M. A. Tekhnologifa gidrotorfa. Moskva, Gos. energeticheskoe izd-vo, 1948. 480 p. illus., tables, graphs, diagrs. Text in Russian. Title tr.: Technology of liquid peat. Textbook approved by the Ministry of Higher Education of the U. S. S. R. for peat technical colleges.

Theories of hydraulic methods of liquid peat recovery and principles of design of equipment are presented in detail for training technical personnel for this rapidly expanding industry. Machinery equipment and practical processes are mathematically analyzed for use under specific field conditions, including (p. 30) work on frozen ground. Computations on production output and comparative efficiency are included.

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48724. VENTURI, V. M., and A. L. ROVATI. Sul reperto ematico e midollare in ratti albini trattati con acetilcolina a 5° C. (Archivio italiano di scienze farmacologiche 1956. v. 6, fasc. 1, p. 32-40, illus., tables.) 31 refs. Text in Italian. Summary in English. Title tr.: Blood and marrow-counts in white rats treated with acetylcholine at 5° C.

The blood of treated animals showed leucocytosis with a relative reduction of eosinophils, moderate oligocythaemia with hyperchromia and macrocytosis, no change in red cell resistance or in number of reticulocytes. The marrow of treated rats showed no morphological change only an increase in eosinophils and a decrease in histiocytes.

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48725. VERBIEST, H. Temperature and heat regulation. (Folia psychiatrica, neurologica et neurochirurgica neerlandica, 1956. 59th year, no. 4, p. 363–407, illus.) About 100 refs.

Following introductory section on the milieu interieur and on regulation in its various aspects, the study deals with methods of investigation and aspects of temperature and heat regulation; regulation of heat production and of heat loss: homeothermy, its significance, consequences and medical aspects; reaction of the homeothermic organism to environmental temperature changes; disturbances in thermoregulation; hyperthermia and its causes; hypothermia (neurogenic); experimental extinction of homeothermy and method of obtaining it; clinical application of hypothermia including neurosurgery. Copy seen: DNLM.

**VERBOV, G. D.**, *d.* **1942?** , see Dolgikh, B. O. Éntsy. *1956*. No. 44641.

VERBOV, G. D., d. 1942? , see also Prokof'eva, E. D. Nen'sy. 1956. No. 47464.

VERGEER, TEUNIS, 1901—, see Ederstrom, H. E., and others. Correlations . . . skin temperature and blood flow . . . dog. 1956. No. 44722.

48726. VERNEJOUL, R. de, and others. Tentatives de prolongation de l'arrêt circulatoire sous hypothermie; étude expérimentale. (Presse médicale, 1956. t. 64, no. 83, p. 1899–1901, illus. tables.) 23 refs. Text in French. Other authors: E. Jean, R. Courbier, and H. Richelme. Title tr.: Tentative prolongation of cir-

culatory arrest under hypothermia: an experimental study.

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Account of experiments on circulatory arrest, applying moderate hypothermia of  $\pm 22^{\circ}$  C. (to prevent ventricular fibrillation) combined with cardiac resuscitation, or with provoked heart standstill. The investigations were performed on dogs and monkeys. The advantages and faults of the two approaches are analyzed and discussed.

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48727. VERYARD, R. G. Some thoughts on climatic change. (Weather, Nov. 1956. v. 9, no. 11, p. 355-64, 2 graphs.) 41 refs.

Review of literature on possible causes of short- and long-period climatic variations; deals with theories concerning variation: in solar radiation, dust and gaseous content of the atmosphere, albedo of the earth, and flow of ocean currents; continental drift, polar wandering, such geological processes as mountain building, etc. are also covered. Theoretically possible methods by which man might modify climate of the polar regions are briefly considered.

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48728. VERZILIN, N. N. K litologii mezhlednikovykh otlozhenií fůzhnof chasti Kol'skogo poluostrova. (Leningrad. Universitet. Vestnik, 1956. god. 11, no. 24, p. 81–88, figs.) 13 refs. Text in Russian. *Title tr.:* The lithology of interglacial deposits in the southern part of Kola Peninsula.

Specimens of Quaternary deposits taken in the vicinity of the Varzuga, Chapoma and Strel'na River mouths were studied by the author. Results of mineralogical, granulometric, thermal and paleontological analyses are discussed and graphed; study yields evidence of the marine origin of these deposits.

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48729. VESELKIN, N. V., and others. O vlifanii sveta na sintez vitaminov. (Leningrad. Leningradskii nauchnyi institut imeni P. F. Lesgafta. Izvestifa, 1934. nov. ser. t. 17–18, p. 389–404, tables.) 11 refs. Text in Russian. Summary in French. Other authors: V. N. Lübimenko, Z. P. Bulgakova, V. V. Tikhal'skafa, and P. S. Éngel'. Title tr.: On the influence of light upon the synthesis of vitamins.

Account of experiments with tomatoes and barley kept during early growth in the darkness. The tomatoes showed an almost complete lack of red color and only one-fifth of vitamin C as compared with controls. Barley developed without light showed very small kernels but an increased percentage of vitamin B.

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48730. VESELKIN, N. V., and others. Vlifanie sveta na sintez vitamina C v prorostkakh fachmenfa. (Leningrad. Leningradskiľ nauchnyl institut imeni P. F. Lesgafta. Izvestifa, 1934. nov. ser., t. 17–18, p. 405–410, table.) 9 refs. Text in Russian. Summary in French. Other authors: V. N. Lfibimenko, Z. P. Bulgakova and V. S. Il'in. Title tr.: The influence of light upon vitamin C synthesis in young barley plants.

Account of experiments with plants during their first ten days of growth. Primary synthesis of vitamin C took place only under the direct influence of light and rain parallel with chlorophyll formation. Observations on etiolated barley however, suggests that vitamin C formation is independent of chlorophyll production. Copy seen: DLC.

48731. VESTAD, REIDAR. Norske timoteistammer og stammeforsøk i de forskjellige landsdeler. (Forskning og forsøk i landbruket, 1953. bd. 4, hefte, 1, p. 55–78, 13 tables.) 29 refs. Text in Norwegian. Summary in English. *Title tr.:* Norwegian timothy strains and strain trials in different parts of the country.

Includes results of research on timothy at Vågønes, an experimental farm in Nordland. According to this author, 91 percent of the agricultural area of north Norway is in grass, and timothy is the most important variety; southern strains are inferior to native ones; Finnish timothy does well.

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48732. VESTERBIRK, C H A R L E S. Hvordan en politimand i Grønland ser på retshåndhævelsens problemer. (Grønland, Aug. 1956, nr. 8, p. 307–316, illus.) Text in Danish. *Title tr.:* How a police officer in Greenland looks upon problems in the administration of justice.

Most pressing need is expansion of the police force so that every town has one permanent police officer. Increase in police work is described and explained.

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48733. VESTERLUND, OTTO. I civilisationens utkanter. (Svenska turistföreningen, Stockholm. Årsskrift, 1901, p. 197–216, 4 illus.) Text in Swedish. Title tr.: On the outskirts of civiliza-

Report of a journey from Gällivare to the Norwegian border along the railway line then in process of construction; sites of Homojokk, Luossavara, Jukkasjärvi, Kurravara, Tornehamn, and the border monument No. 272 are described. The new railway is viewed as a means of extending civilization into this remote section of Sweden. Ten plant species along the route are identified.

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48734. VESTERLUND, OTTO. Lappland. (Svenska turistföreningen, Stockholm. Årsskrift, 1900, p. 22–29, 2 illus.) Text in Swedish. *Title tr.*: Lapland.

Nature and conditions in Lapland are sketched, for tourist, scientist, and research man. *Copy seen:* DGS.

48735. VÎALOV, S. S. Zavisimost' mezhdu naprîazheniem i deformafsiel merzlykh gruntov s uchetom faktora vremeni. (Akademiâ nauk SSSR. Doklady, June 22, 1956. t. 108, no. 6, p. 1049-52, graphs.) Refs. Text in Russian. *Title tr.:* Relation between stress and deformation of frozen ground with consideration of time factor.

The deformation of frozen ground was studied under shearing force of a frozen wooden bar and under compression force of a hard stamp applied to samples of various compositions for periods from several minutes to ten days, also for periods of over a year. Data obtained on the effects of shearing stress are graphed and discussed. The viscous properties of frozen ground (creep factors) are responsible for the persistent deformation, the duration of which varied in the tests with the composition of the samples. Formulas are given to express the interrelations determined between applied stress, time, and type of deformation, as well as variations in the moduli of shearing and residual deformation as a function of stress and duration. A final series of experiments included studies on deformation under intermittent stress and continuous stress increasing with time.-From SIPRE.

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VÎATKINA, K. V., see Akademiâ nauk SSSR. Institut êtnografii. Narody Sibiri. 1956. No. 43522.

48736. VÍAZOV, EVGENIÍ IL'ICH. Rual Amundsen. Moskva, Gos. izd-vo geogr. lit-ry, 1955. 38 p. illus., maps. 5 refs. Text in Russian. *Title tr.:* Roald Amundsen.

Popular biography of Roald Englebregt Gravning Amundsen, 1872–1928, with emphasis on his voyage on the  $Gj\phi a$  through the Northwest Passage in 1903–1906, his traverse of the Northeast Passage with the Maud in 1918–1925 and his arctic flights of 1925–1928.

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48737. VIBE, CHRISTIAN, 1913-

The zoogeography of Greenland. (International Congress of Zoology. 14th, Copenhagen, 1953. Proceedings, pub. 1956, p. 126–27)

Discussion of the origin and distribution of land fauna of Greenland, as survivals of a richer circumpolar fauna existing before the glacial period. Survival was possible because of modifications in climate due to Greenland's island location.

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48738. VIBE, CHRISTIAN, 1913—. Grønlands zoogeografiske problemer. (Grønland, 1953, hefte 11, p. 432–36, illus.) Text in Danish. *Title tr.:* Greenland's zoogeographical problems.

The Greenland fauna constitutes the remains of an ancient fauna, circumpolar in distribution before the ice age but later limited to isolated localities in boreal and arctic areas. Arctic mammals in North Greenland (musk ox, caribou, polar hare, lemming, polar wolf, arctic fox and ermine) may have survived the ice age in The insects are re-Greenland itself. mains of an arctic Tertiary fauna, mostly Diptera, butterflies and ichneumon flies. The subarctic mammals in southern Greenland are probably immigrants via Baffin Island or ice age relicts in ice-free The insect fauna in southern Greenland constitutes the remains of a boreal fauna which in Europe, Asia and North America became extinct during the ice age or was supplanted by new species which immigrated from the south.

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48739. VIBE, CHRISTIAN, 1913—. Thule og Scoresbysund, Grønlands to nordligste fangst-distrikter. (Grønland, Nov. 1956, nr. 11, p. 414–27, illus.) Text in Danish. Title tr.: Thule and Scoresbysund, Greenland's two northernmost hunting districts.

Contains a geographic description of the west and east coast districts and lists the animals hunted. The stocks provide a satisfactory livelihood for the present population, but the balance will be disturbed if the hunting is made to pay for the increasing investments and the rise in living standard, particularly as there is a steep rise in the population. Copy seen: DLC.

VIBE, CHRISTIAN, 1913-, see also Jennov, J. G. Moskusokserne . . . 1956. No. 45782.

VICARI, F., see Montalbano, S., and F. Vicari. Ricerche sperimentali sugli effetti della ganglionectomia . . . 1956. 46818.

48740. VICTOR, PAUL ÉMILE, 1907-. Wringing secrets from Greenland's icecap. (National geographic magazine, Jan. 1956. v. 109, p. 120-47, 20 illus.,

2 text maps.)

Popular account of each year's work of Expéditions polaires françaises (led by the writer) to the Greenland icecap, Setting up of each camp 1948-1953. from the west coast to the Central Station, travel on the icecap, and construction of Central Station are described, with account of the aerial supply, the wintering party of 1949-1950, and the traverse of the icecap in weasels to the Some general results are east coast. given. An international expedition planned by the International Commission of Snow and Ice for 1957-1959 is men-Copy seen: DGS. tioned.

VICTOR, PAUL ÉMILE, 1907also Expéditions polaires françaises. Terre Adélie, Groenland, 1947-1955 . . . 1956. No. 44831.

VIDAVSKAIA, G. M. see Eskin, I. A., and G. M. Vidavskafa. Vlifanie sveta . . . 1956. No. 44808.

48741. VIDME, T., and A. BLYTERUD. Orienterende forsøk med kjemiske midler mot ugras i bartreplanteskoler, 1949. Preliminary trials on chemical weed control in conifer nurseries, 1949. (Norske skogplanteskoler. Årsskrift, 1950. p. Text in Norwegian. 92-104, 3 plates.)

Includes reports on experimental use of sulphate turpentines at Rognan and Alstadhaug nurseries in Nordland, p. 99-100. Copy seen: DA.

48742. VIDME, T. Ugrassprøyting i teskular. (Norske skogplante-Årsskrift, 1951. p. 46–78, 6 skogplanteskular. skoler.

tables.) Text in Norwegian. Title tr.: Weed spraying in forest nurseries.

Presents text of the address, and ensuing discussion of the tolerance of trees treated with chemical weed controls, and the results of spraying at the various nurseries; includes reports from nurseries in arctic Norway. Copy seen: DA.

VIE DEL MONDO. Alaska: attività della prima università artica. (Vie del mondo, July 1956. anno 18, no. 7, p. 674, 676, illus.) Text in Italian. Title tr: Alaska: activities of the first arctic university.

Contains information on pre-war conditions in Alaska, post-war development and present population status; the University of Alaska, its location; number of students, their origin, etc.

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VIE DEL MONDO. 48744. Artico: collaborazione sovietico-americana negli studi artici. (Vie del mondo, Nov. 1956. anno 18, no. 11, p. 1122, 1124.) Text in Italian. Title tr: Arctic: Soviet-Amercan collaboration in arctic studies.

Notes announcement of U. S. Government's readiness to permit aerial reconnaissance in connection with the IGY. Nome in Alaska and Murmansk in the U. S. S. R. are proposed as bases for ice studies. Copy seen: DLC.

48745. VIE DEL MONDO. le nuove risorse di Terranova. (Vie del mondo, July 1956. anno 18, no. 7, p. 678-Text in Italian. Title tr: Canada: the new resources of Newfoundland.

Sketch of the tenth province, its timber and mineral resources; iron ore mining developments in Labrador.

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VIE DEL MONDO. 48746. Canada: le risorse del nord. (Vie del mondo, Apr. 1956. anno 18, no, 4, p. 340, 342.) Text in Italian. Title tr: Canada: resources of the North.

Brief survey of natural resources in Yukon and Northwest Territories, citing forests, uranium, gold, lead, zinc, and other minerals, furs, possible oil and gas fields, potential hydro-electric power.

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VIE DEL MONDO. 48747. Groenlandia: creazione di un porto di transito per il minerale di ferro canadese. (Vie del mondo, Dec. 1956. anno 18, no. 12, p. 1242, text map.) Text in Italian. Title tr: Greenland: creation of a port of transit for Canadian iron ore.

Notes survey for construction of a harbor in West Greenland for transshipment of iron ore from the Ungava region to Europe and the eastern United States. Rype Ø near Godthåb is suggested as a site. Copy seen: DLC.

VIENS, G. E., see Campbell, R. A., and others. Experimental . . . smelting of manganese ores. 1956. No. 44246.

48748. VIERECK, HENRY LORENZ, 1881-1931. *Megachile* in Alaska. (Entomological news, Dec. 1901. v. 12, no. 10, p. 325.)

Contains a simple list of four bees collected by Mrs. J. W. Kirk at Eagle City, Alaska (65°30′ N.): Bombus consimilis, B. flavifrons, B. howardii and Megachile vidua (=M. frigida).

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48749. VIGELAND, IMM. Mosdyrene noen ufarlige smådyr. (Ottar, Tromsø, Dec. 1955. nr. 7, p. 22–23, illus.) Text in Norwegian. *Title tr:* The moss animals are harmless small animals.

Off the north Norway coast, especially near Porsangerfjord, there are many varieties of lime incrustations developed by animals resembling worms. The incrustations have little economic value; but in the larval stage, the moss animals are planktonic and serve as food for sea animals.

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48750. VIKSTEN, ALBERT, 1889—. I guldjägares spår; resan till Yukon och Alaska; 2. uppl. Stockholm, LT: s förlag 1951. 336 p. plates, map. Text in Swedish. *Title tr.:* In the footsteps of the gold seekers; journeys to Yukon and Alaska. 2d ed.

This Swedish writer's travels in America included two trips to Alaska; the first, in 1942, by road from Dawson Creek to the Yukon gold region, the second by air from Seattle to Fairbanks, Nome, and Kotzebue, and by rail from Fairbanks to Anchorage. His impressions are given, with over a hundred photographs. Stories and names from gold rush days are recalled in a comparison with conditions a half century later. Whitehorse, the Yukon, Dawson, gold-washing methods, and the Indians are treated in separate chapters covering the first trip (p. 11-Impressions from the second journey, in 1943, are treated in chapters on Alaska in winter, the Eskimos, Nome, Norwegians in Alaska, and recent trends in Alaska's social and economic development. **Copy seen:** DLC.

48751. VIKTOROV, V. UstroIstvo ledıânykh prichalov. (MorskoI flot, 1941. no. 11–12, p. 25–29, table, illus.) Text in Russian. *Title tr.:* Arrangements for landing on ice.

Describes reinforcement of ice near ship and shore with logs and boards to land cargo. Two ship-to-shore roads 50 m. apart are specified for safe and smooth communication. Ice stresses are computed for different thicknesses and types of ice, and for different load distributions created by landed vehicles.

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48752. VILBORG, L. The uplift of stones by frost. (Geografiska annaler, 1955. årg. 37, häfte 3-4, p. 164-69, illus., text map, diagrs., graphs.) 6 refs.

Contains results of observations in northern Sweden between Mt. Kebnekaise and Kiruna (approx. 67°51′ -53′ N.  $18^{\circ}33' - 20^{\circ}13'$  E.) in summer 1952, A layer of gravel and sand with coarser grains than the surrounding soil was found beneath frost-lifted stones. Grain sizes were analyzed. During freeze or thaw processes, author suggests, a stone stuck to the uppermost layer of soil and lifted by upward expansion of the layer, would leave a cavity; the latter would not cave in immediately, due to soil cohesion with moisture present during freeze or thaw. Coarser particles in the cavity walls being less cohesive than the fine material, fall out and collect in the bottom of the cavity. The stone is thus prevented from slipping back into position during melting. Copy seen: DLC.

48753. VIL'CHEVSKIĬ, D. P., and others. Opyt raboty komandy malogo rybolovnogo seinera "Kamchatskii." (Rybnoe khozlālstvo, Aug. 1956. god 32, no. 8, p. 67–71, illus., tables.) Text in Russian. Other authors: E. D. Karakofskiī and I. N. Īakovlev. Title tr.: Trial fishing of the crew of the small seiner Kamchatskiī.

Contains description of the boat, one of a series introduced during 1950-54 to the Petropavlovsk fishing fleet; catches, equipment, fishing gear and methods, handling of catches, fishing grounds, value of catches, etc. Copy seen: DLC.

48754. VILLAKHOV, E. Tbileï fakutskogo ovoshchevoda. (Ogonëk, Jan. 1956.

god 34, no. 2, p. 20, illus.) Text in Russian. *Title tr.:* Jubilee of a vege-

table grower in Yakutia.

Notes celebration of the 70th birthday of Mikhail Grigor'evich Egorov, pioneer in vegetable growing in Yakutia, and Stalin prize winner, with sketch of work in central Yakutia and the North.

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VILLAKHOV, I., see Andronnikov, M., and others. L'extrême-nord sovietique . . . 1955. No. 43668.

48755. VILLALOBOS, TULIO J., and others. The effect of hypothermia on platelets and white cells in dogs. (In: National Research Council. Division of Medical Sciences. The physiology of induced hypothermia . . . symposium, Oct. 1955, pub. 1956. p. 186-98, illustables.) 2 refs. Other authors: E. Adelson and P. Rilev.

The decrease in platelet number and probably that in the number of leucocytes in the blood of animals cooled down to 20° C. was found to be due to sequestration in the liver and apparently in the spleen. Splenectomy and hepatectomy suggest that other sinusoidal organs are also involved in this activity.

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48756. VIL'SON, A. P. Mechenie kandalakshskikh i atlantichesko-skandinavskikh sel'del. (Rybnoe khozíalstvo, July 1956. god 32, no. 7, p. 61–63, illus., map.) Text in Russian. *Title tr.:* Tagging of Kandalaksha and Atlantic-Scandinavian herring.

Contains information on tagging methods for sardines and herring, followed by a report on tagging young herring in the Kandalaksha Bay (White Sea) during 1953–54, and in the Norwegian Sea during 1953–55. Type and markings of tags (illus.), number of fishes tagged, recapture, etc. are discussed.

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48757. VINOGRADOV, ALEKSANDR PAVLOVICH, and others. Izmenenie khimicheskogo sostava karbonatnykh porod Russkof platformy. (Akademiñanauk SSSR. Izvestiña, seriña geologicheskaña, Jan.-Feb. 1952, no. 1, p. 33-50, 9 graphs, 2 tables, 3 maps.) 12 refs. Text in Russian. Other authors: A. B. Ronov and V. M. Ratynskif. Title tr.: Changes in chemical composition of the carbonate rocks of the Russian platform.

Qualitative changes in chemical com-

position of carbonate rocks with time are described. Data assembled in tables indicate the direction and periodical character of these changes. The evolution of the carbonate composition is connected with the general geochemical transformation and tectonic developments of the Russian platform  $(47^\circ-69^\circ$  N.  $21^\circ-60^\circ$  E.). Geographic distribution of samples, selected in the central and northern regions is shown (maps) and analyses are given. Periodical variations in chemical composition of different carbonates are graphed.

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48758. VINOGRADOV, I. V. Vlianie plotnosti lesnogo gruza na ostošchivosť sudna. (Sudostroenie, Nov. 1956. god 22, no. 11, p. 1–4, table.) Text in Russian. *Title tr.:* Influence of compactness of timber load on a vessel's stability.

Technical discussion of the problem of loading timber of various degrees of moisture content on deck; table is given for computing height of load to maintain stability for any kind of vessel and any kind of timber.

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48759. VINOGRADOV, M. E. Giperiidy (Amphipoda-Hyperiidea) zapadnykh raionov Beringova moria. (Zoologicheskii zhurnal, Feb. 1956. v. 35, no. 2, p. 194–218, 10 illus.) 29 refs. Text in Russian. Summary in English, p. 5–6. *Title tr.:* Amphipoda-Hyperiidea of the western Bering Sea.

Contains a systematic annotated list of 30 species of these hyperiids collected by the research vessel Vitiaz' during the Institute of Oceanology expeditions of 1950-52. Three species and one subspecies are described as new. Horizontal and vertical distributions are noted and discussed.

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48760. VINOGRADOVA, N. G. Zoogeograficheskoe rafonirovanie abissali mirovogo okeana. (Akademiâ nauk SSSR. Doklady, Nov. 1, 1956. t. 111, no. 1, p. 195–98, map.) 17 refs. Text in Russian. *Title tr.:* Zoogeographical subdivision of the abyss of the world ocean.

Attempt is made at geographic subdivision of the abyssal region (hitherto considered cosmopolitan and homogeneous) on the basis of distribution of Spongia, Coelenterata, Cirripedia, Isopoda, Pantopoda and Echinodermata. These orders are mostly (85 percent) confined to a certain ocean. The zoning scheme presented includes the northern Pacific province (Okhotsk and Bering Seas) and the arctic subprovince (Barents Sea, Svalbard waters, Greenland Sea and Greenland waters). The latter is connected with the Atlantic Ocean province: 32.5 percent of arctic deep-sea species are of Atlantic origin; but it is quite different from northern Pacific province.

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48761. VINTER, ALEKSANDR VASIL'-EVICH, and E. M. FATEEV. Ispol'zovanie ėnergii vetra v sel'skom khozáistve. Moskva, Izd-vo Akademii nauk SSSR, 1955. 108 p. illus., tables, graphs. (Akademiià nauk SSSR. Énergeticheskii institut. Nauchno-populiārnaia seriā vpomoshch' sel'skomu khozáistvu). Text in Russian. Title tr.: The use of wind

power in agriculture.

Theory of the wind-driven motor and statistical data on average (daily, monthly and annual) air velocity are presented as a basis for designing mechanical and electric power installations for various purposes on the farm. Two-three- and multi-blade motors are described in detail. Aerodynamic, construction, and operating characteristics are given for each type of windmill, also the economic aspects. Arrangement of the installation is diagrammed for direct and geared drives and also for electric transmission.

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48762. VIRKKI, NIILO. Über den Schaltknochen der Bregmagegend beim Eichhörnehen, Sciurus vulgaris L. (Suomalainen eläin- ja kasvitieteellinen seura Vanamo. Tiedonannot (Archivum), 1954. v. 9, no. 2, p. 100–108, 2 illus., text map.) 15 refs. Text in German. Title tr.: On the spurious bone in the bregma area of the squirrel. Sciurus vulgaris L.

An anatomic study of more than 350 skulls from two collections. Part of the material originates in arctic Scandinavia. The location and origin of this bone, causes of its formation, possible hereditary factors, etc., are discussed.

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VIRTUE, ROBERT WALLACE, 1904—, see Blair, E., and others. Clincal hypothermia; a study . . . technics. 1956. No. 44046.

48763. VISCONTI, S., and others. Primi studi relativi al comportamento della crasi ematica in corso di ibernazione sperimentale. (Minerva anestesiologica, Mar. 1955. anno 21, no. 3, p. 71-73, illus.) 7 refs. Text in Italian. Summary in English. Other authors: G. Consoli and F. Mazzeo. Title tr.: Preliminary studies on the constitution of the blood during experimental hibernation.

Contains brief account on the hematological picture of the peripheral blood, bone marrow and spleen in dogs, made hypothermic down to 18° C.

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48764. VISSER, SIMON WILHELM. Haloes, zonnevlekken en de uitbarsting van de Katmai. (Hemel en dampkring, Oct. 1954. Jaarg. 52, afl. 10, p. 177–82, 7 tables.) 4 refs. Text in Dutch. *Title tr.:* Halos, sunspots and the Katmai eruption.

"The data... on the relationship between sunspots and halos are examined to determine the existence of an inverse relationship between them. The relation between the eruption of Katmai in Alaska, 58°16′ N. 154°59′ W., and the monthly frequency of solar halos in the period 1911–1914 and that between sunspots on the one hand and halos, parhelia, and sun pillars, and halo days is examined."—Meteorological abstracts & bibliography, Jan. 1956.

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48765. VISTELIUS, A. B. Turmalin v karbonatnykh zhilakh okrestnosteľ Chupinskoľ guby, sev. Karelifa. (Leningrad. Universitet. Uchenye zapiski, no. 34, 1939, Serifa geologo-pochvennykh nauk, vyp. 7, p. 60-70, diagrs., table.) 4 refs. Text in Russian. Summary in English. Title tr.: Tourmaline in the carbonate veins in the Chupa bay region, northern Karelia.

Results of observations of carbonate veins in 1937 are described. The veins were found in the amphibolite bodies and extended to the Kartash Peninsula, also to Keret', Sidorov and other small islands. The basic minerals found were: carbonates of calcium, magnesium, iron, also quartz, feldspar, chlorite, dark mica, etc. The carbonate minerals are in three groups according to their paragenetic relations: mica, epidote, and tourmaline veins. Variation in the tourmaline crystals is discussed, with graphical illustration and (p. 66) with tabulated crystalographic characteristics.

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VITALE, J. J., see Hegsted, D. M., and others. Effect . . . low temperature . . . magnesium requirement. 1956. No. 45490.

48766. VITEL'S, L. A. TSiklony severnykh morel i poteplenie Arktiki. (Meteorologifa i gidrologifa, 1946. no. 5, p. 32–40, diagrs., tables.) 15 refs. Text in Russian. Title tr.: Cyclones of the northern seas and the warming of the Arctic.

"Various studies dealing with the intensification of the general circulation and cyclonic activity in the higher latitudes of the European Arctic with special reference to the present amelioration of the climate in the higher latitude are reviewed." The cyclonic variations are analyzed for 1900-1939 in four regions: Iceland-Norwegian Sea; Barents Sea; Kara Sea-Taymyr-Ob'-Yenisey Rivers; and the northern sector of the European continent to 55° N. lat. A comparison of number of days with cyclones and with cyclones of high intensity shows that the annual total of cyclonic days is decreasing, and cyclones of high intensity are not only increasing, but also have been shifting north during the latter two decades, a period characterized by the warming of the Arctic.-From Meteorological abstracts and bibliography, Jan. 1956. Copy seen: DLC.

VITEL'S, L. A., see also Obruchev, S. V. Spravochnik puteshestvennika... 1949–50. No. 47123.

48767. VITKEVICH, VITOL'D IG-NAT'EVICH. Sel'skokhozílistvennafa meteorologifa. Moskva, Gos. izd-vo sel'skokhoz. lit-ry, 1955. 280 p. illus., table, maps, graphs. Text in Russian. Title tr.: Agricultural meteorology. Text book approved by Main Administration on Worker's Training of the Ministry of Agriculture U. S. S. R. for the agricultural colleges.

Fundamentals of meteorology and geophysics for agriculturists are presented, including the effects of snow cover on heat preservation in winter and in the permafrost region (p. 74-90). The effects of light frost are dealt with in chap. 9 (p. 116-92), its forecasting, and protective measures against its damage to fruit trees and vegetation. Regional climatology is discussed in chap. 11 (p. 225-44) including: Kola Peninsula, Karelia, West-

ern Siberia, the Yenisey basin, Yakutsk region, Sea of Okhotsk, Kamchatka, etc. Copy seen: DLC.

48768. VITKOVSKII. N. I. Kratkii otchet o raskopkie mogily kamennago perioda v Irkutskoĭ gubernii, proizvedennol po poruchenia Vostochno-Sibirskago Otdíčla Imperatorskago Russkago Geograficheskago obshchestva v iûliê 1880 (Vsesofuznoe geograficheskoe goda. obshchestvo. Vostochno-Sibirskii otdel. Izvestifa, 1880. t. 11, no. 3-4, p. 1-12; illus., plan, tables.) 2 refs. Text in Title tr.: Short report on the Russian. excavation of a stone age burial site in Irkutsk government, made on behalf of the East-Siberian section of the Imperial Russian Geographic Society in July, 1880.

Reports the discovery of a stone age burial site near the confluence of the Kitoy and Angara Rivers (approx. 52°30' N. 103° E.). The 12 prone skeletons, potsherds and stone and bone artifacts (arrow-heads, axes, knives, awls, scrapers, harpoons, ornaments, etc.) are described in turn, the finds tabulated, and some of the artifacts sketched in actual size. Bits of red ochre, charcoal and traces of iron oxide, though no iron implements, were found in the burials together with animal bones. Author speculates on the NW or SE orientation of the skeletons and suggests male and female burials.

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48769. VITKOVSKIĬ, N. I. Otchet o raskopkie mogil kamennago viêka v Irkutskoĭ gubernii, na liêvom beregu r. Angary, proizvedennoi liêtom 1881 g. (Vsesofūznoe geograficheskoe obshchestvo. Vostochno-Sibirskiĭ otdel. Izvestiíā, May 1882. t. 13, no. 1–2, p. 1–36, 5 fold. plates of illus., graphs, map) 16 refs. Text in Russian. Title tr.: Report on the excavation of stone age burials in Irkutsk government, on the left bank of the Angara River, in the summer of 1881.

An account of the excavations continuing those reported in No. 48768: 12 more prone skeletons with northwest or southeast orientation were found. Excavation methods, depth of burials, position and preservation of skeletons are given, skull measurements tabulated, and the worn state of the teeth noted. The stone and bone artifacts (spear or arrowheads, axes, awls, scrapers, harpoons, etc.) and potsherds are described in turn, with illus. (lithographs) of some supplied in actual size. Ochre remains point to its use for burial purposes. An attempt is made to

reconstruct stone age economy, food, clothing, housing, etc. from the finds. The results of a chemical analysis of two skull bones are tabulated and discussed (p. 113-15) by A. Shamarin, but no dating is attempted.

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48770. VIVIAN, C. H. Gunnar mines; a leading Canadian source of uranium. (Compressed air, June 1956. v. 61, no. 6,

p. 168-73, illus., map.)

A brief history of the founding of the Eldorado Mine at Great Bear Lake is given, and development of the Gunnar Mines property located on Lake Athabaska in northern Saskatchewan, is described. Gunnar Mines is a major source of uranium with facilities expected to have an aggregate ore-processing capacity of 19,200 tons daily. The company headed by Gilbert La Bine originally produced gold in Manitoba 1936-1942. A concentrating mill for uranium-bearing ore was started in March 1954 and was operating at near-capacity by March 1956. Copy seen: DLC.

VIZE, VLADIMIR ÎÜL'EVICH, 1886– 1954, see Le Roy, P. L. Priklûcheniîa . . . matrosov . . . 1955. No. 46320.

48771. VLADIMIROV, P. N. Novyī proekt gornykh vyrabotok Kukisvum-chorrskogo apatito-nefelinovogo mesto-rozhdenia. (In: Khibinskie apatity, 1933. t. 6, p. 42–50, 4 illus., table.) Text in Russian. Title tr.: New mining production project in the Kukisvumchorr apatite-nepheline deposits.

Program of work in the Kirov apatite mines (capacity 300,000 tons) is outlined. Production costs and quality of products are analyzed in relation to capital and maintenance costs. The planning includes effects of weather and seasonal changes on open and underground, highly mechanized, mining production. Mining methods are described on four cross-sections of the Kukisvumchorr deposit. This project is considered the largest in the Khibiny. Copy seen: DGS.

48772. VLADIMIRSKAÑ, M. I. Sigi basselna ozera Imandry. (Voprosy ikhtiologii, 1956, vyp. 6, p. 136–48, tables) 8 refs. Text in Russian. *Title tr.*: The whitefish of the Lake Imandra basin.

Contains description of the types of lakes in central Kola Peninsula, and their fish fauna as studied in 1949–51. Information is given on distribution and percentage of whitefish, their size and growth, food (tabular data); also on propagation, sexual dimorphism, local races, enemies and parasites, etc.

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48773. VLASOV, I. I. Ledûnye ovoshchekhranilishcha. Moskva, Gostorgizdat, 1948. 28 p. illus., diagr. (Nauchno-issledovatel'skil institut torgovli i obshchestvennogo pitaniîâ Narkomtorga SSSR). Text in Russian. Title tr.: Ice storehouses for vegetables.

Method of constructing the storage, built of ice and heat-insulating materials, is described in detail. The produce (potatoes, carrots, cabbages, apples, onions, etc.) is distributed within the structure according to temperature suited to the product. Physical-chemical changes in the products during storage were observed and the results are tabulated, with indication of defects and spoilage. Loading and shifting of the stored materials and winter maintenance of the ice structure are described.

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48774. VLASOV, N. Zhemchuzhina taïgi. (Ogonëk, Aug. 1956. god 34, no. 35, p. 32, illus.) Text in Russian. *Title tr.:* Jewel of the taiga.

The sable, its hunting in the U. S. S. R.; former abundance in the Nizhnyaya Tunguska basin; relative recovery of the stock in some areas. *Copy seen*: DLC.

48775. VLEUGEL, E. Reseintryck under en färd från Östersjön till Atlanten. (Svenska turistföreningen, Stockholm. Årsskrift, 1899, p. 31–52, 3 illus.) Text in Swedish. *Title tr.*: Impressions on a journey from the Baltic to the Atlantic.

From Skellefteå, on the Baltic coast of Sweden, the writer traveled through Arjeplog and across the upland to Junkerdalen and Bodø on the north Norwegian coast. He comments upon the history, plant life, landscapes; economic problems in the Bodø-Lofoten region, etc.

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48776. VLODAVETS, VLADIMIR IVANOVICH. Akademik Aleksandr Nikolaevich Zavaritskii, 1884–1952. (Akademia nauk SSSR. Kamchatskafa vulkanologicheskafa stantsifa. Bfülleten', 1953, no. 19, p. 3–6, port.) 41 refs. Text in Russian. Title tr.: Academician A. N. Zavaritskii, 1884–1952.

Obituary and biographical sketch of this outstanding Soviet geologist, Director of the Laboratory of Volcanology and scientific head of Kamchatka Volcanological Station, with mention of his exploration of polar Ural and studies of volcanoes in Kamchatka. List of his publications on volcanology (41 items), is appended.

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48777. VLODAVETS, VLADIMIR IVANOVICH. TSirkonievye mestorozhdenifa fûgo-zapadno'i chasti Lovozerskikh tundr. (In: Khibinskie apatity, 1933. t. 6, p. 101–104, table.) Text in Russian. Title tr.: Zirconium formations in the southwest part of the Lovozerskaya Tundra.

Describes survey and prospecting of zirconium formations. Large deposits of minerals of low zirconium concentration are developed to augment the limited sources rich in this element. Distribution of minerals containing zirconium oxides is given with location, specific data on concentration, and estimated production. Abstract of discussion is added, covering also related papers of E. A. Sal'e, q. v., and others.

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48778. VODOP'ĀNOV, MIKHAIL VASIL'EVICH. Gordoe slovo; rasskazy o tovarishchestve i druzhbe. Moskva, Molodañ gvardiñ, 1956. 126 p. illus. (Shkol'nañ biblioteka.) Text in Russian. Title tr.: Proud word; stories of comradeship and friendship. 2d revised and enlarged edition.

Edifying tales (19) of war, exploration and aeronautical activities, etc., mostly in the Arctic and partly autobiographical. The importance of comradeship even to self-sacrifice is stressed. A propagandist story is included (p. 29-38) about an unidentified "capitalist" expedition in a dirigible.

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VOEGELIN, C. F., 1906—, see Sanders, I. T. Societies around the world. 1956. No. 47782.

48779. VOENNYE ZNANIIÂ. Razgrom vraga v Zapolîar'e. (Voennye znaniîâ, Sept. 1956. god 31, no. 9, p. 32.) Text in Russian. Title tr.: The enemy's defeat above the Arctic Circle.

Brief account of military operations in northern Finland in October 1944 and the conquest of Petsamo (Pechenga) by Soviet troops. **Copy seen:** DLC.

48780. VOGEL, GÜNTHER, and others. Zur Wirkung von Stoffwechselinhibitoren auf die fortgeleitete Erregung isolierter Kaltblüternerven in verschiedenen Temperaturbereichen. (Pflüger's Archiv für die gesamte Physiologie, 1956. Bd. 263, Heft 5, p. 542–52, illus. table) 30 refs. Text in German. Other authors: W. Westphal, and H. Krause. Title tr.: On the effect of metabolic inhibitors upon stimulus conduction in isolated poikilothermic nerves at various temperatures.

A study of isolated sciatic nerves of the frog, treated with 2.4 dinitrophenol, with sodiumfluoride or untreated, at temperatures of 1° to 31° C. Speed of conduction, characteristics of action potential, refractory time and other parameters were studied. Among them only refractory time showed a pronounced temperature dependence: at low temperature it was longer than the duration of the monophasic action potential. Metabolism inhibitors extended the refractory period.

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48781. VOGT, PER, 1903—, Editor. Norway today: scenery and natural resources, people and history, literature, art and science, travel, sport and exploration, economic life, regional descriptions. Oslo, Dreyer, 1951. [Translated into English by Sewell Fürst and Finn R. Kerr. 5th rev. ed.] 160 p. illus., ports., map on lining papers.

Includes (p. 151-60) description of North Norway, its seenery; towns of Bodø, Narvik, Tromsø; Lofoten and Vesterålen islands. References to North Norway occur also in other sections of the book.

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48782. VOINOV, V. Lîudi severa. (Molodof kolkhoznik, Nov. 1956. god 23, no. 11, p. 30.) Text in Russian. *Title tr.:* Men from the North.

Sketch of the Soviet writer, Andref Semenov, and of his novels reflecting life in the Kolyma and Indigirka River basins and other parts of the far North.

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48783. VOľNOVSKIĬ-KRIGER, K. G. Nekotorye soobrazheniâ ob izoklinal'nof skladchatosti. (Moskovskoe obshchestvo ispytateleľ prirody. Bûlleten', 1948. god 119, Otdel geologicheskiľ, t. 23, no. 6, p. 69–77, 10 illus.) 3 refs. Text in Russian. *Title tr.:* Some considerations on isoclinal foldings.

Contains discussion of the morphology of the isoclinal foldings as presented in various textbooks. Geometry of the isoclinal structures in the Polar Urals is explained by the author on the basis of observed characteristics with a set of

diagramatic illus. The power creating sharp isoclinal bendings of layers can be characterized by the amplitude of the folding. Complicated foldings are classified as monoclinal, anticlinal, synclinal, with and without ruptures, creating isoclinal structure of a high order. Mechanics of the isoclinal structures are explained with consideration of intensity of sliding and magnitude of the amplitude of folding. Sliding of the layers represents the basic form of motion during formation of the isoclinal folding. The complexity of this type of structure is discussed further in detail.

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48784. VOľNOVSKIĬ-KRIGER, K. G. O tektonicheskoľ strukture i osnovnykh étapakh geotektonicheskogo razvitißa Pechorskogo ugoľ'nogo basseľna. (Akademißa nauk SSSR. Laboratorißa geologii uglißa. Trudy, 1956, vyp. 6, Materialy vtorogo ugoľ'nogo geologicheskogo soveshchanis, p. 412–23, maps.) 13 refs. Text in Russian. Title tr.: Tectonic structure and main stages of the geotectonic development of the Pechora coal basin.

Ten tectonic elements or zones of the Pechora Coal Basin are characterized in turn and their location indicated (map). Their formation in pre-Ordovician, Ordovician, Gotlandian, Carboniferous and Permian stages is outlined and in relation to the formation of the Ural range. Unusual features in the regional flexure of the Ural in the Pechora basin are discussed.

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48785. VOIPIO, PAAVO. Über die gelbfüssigen Silbermöwen Nordwesteuropas. (Societas pro fauna et flora fennica. Acta 1954. v. 71, no. 1, p. 1-56, illus., 2 text maps.) 57 refs. Text in German. *Title tr.*: On yellow-legged herring gulls of northwest Europe.

Contains a study of the taxonomy, ecology, and origin of Larus argentatus, and the history of its expansion; especially the group L. argentatus-cachinnans-fuscus inhabiting the lakes and other water basins of northern Scandinavia and adjacent regions of northern U. S. S. R. The study involves many other northern races, such as taimyrensis and birulae (northwestern Siberia), vegae (Bering Strait) and antelius and omissus (White Sea region), including some pink-legged ("rosafüssig") forms. In coastal regions, both pink-legged and yellow forms live together and mix freely, but the inland

population is chiefly yellow-legged; it is greatly increased by immigration from southern regions. In the inland lake regions of Finland, *L. argentatus* and *L. fuscus* live together but do not mix; the same biological isolation exists between *L. cachinnans* and *L. fuscus*.

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VOISIN, A. G., see Rose, D. C., and A. G. Voisin. The low . . . cosmic ray mesons . . . high geomagnetic latitudes. 1956. No. 47659.

48786. VOĬTKOVSKIĬ, K. F. Ob ispol'zovanii "privedennogo koėffitšienta teploemkosti" pri raschetakh glubiny promerzaniā i ottaivaniā gruntov. (Akademiā nauk SSSR. Institut merzlotovedeniā. Materialy k osnovam ucheniā o merzlykh zonakh zemnol kory, 1955. vyp. 2, p. 65–74, tables, graph.) 3 refs. Text in Russian. Title tr.: Using a corrected coefficient of specific heat for calculating depths of ground freezing and thawing.

Calculation of the approximate depth of soil freezing or thawing is mathematically analyzed with emphasis on Machinskii's method, first presented in 1949. This method ignores phase transition of water in soil and treats ground freezing and thawing as thermal processes. A probable error of up to 37 percent was found with a max, for small differences between surface and ground temperatures. The method of corrected specific heat may be considered satisfactory for quick and approximate solutions ( $\pm 10$  percent) of general engineering problems, and for specific cases with large temperature difference between surface and zero temperature line.—From SIPRE.

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48787. VOĬTKOVSKIĬ, K. F. Plasticheskiĭ progib ledânykh balok. (Akademiâ nauk SSSR. Doklady, Sept. 21, 1956. t. 110, no. 3, p. 383–86, tables, graphs, diagr.) 6 refs. Text in Russian. *Title tr.:* Plastic deformation of ice beams.

"Bending tests on ice beams carried out at the Research Station of the Institute of Permafrostology in 1954-55 are described, and the data obtained are mathematically analyzed and graphed. The experiments were conducted with moderate bending stress applied for periods up to 3,000 hr. at constant temperatures. The experimental beams (10 x 10 x 120 cm.) The strength of the strength

were prepared from natural ice (with optical crystal axes in the beam normal to horizontal or vertical longitudinal sections) or from ice formed by freezing together ice and wet snow. Plastic deformations for the temperature range from  $-1^{\circ}$  to  $-10^{\circ}$  C. were similar to determinations by Royen for ice com-The rapid deformation observed at the beginning of the experiments reached a moderate and relatively constant speed after 3-5 days. Load removal caused deflection decrease for 1-2 days with max. intensity in the first hour."-SIPRE. Copy seen: DLC.

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48788. VOĬTKOVSKIĬ, K. F. Raschet sooruzheniĭ iz l'da i snega. Moskva, Izd-vo Adademii nauk SSSR, 1954. 136 p. diagrs., illus., graphs, tables (Akademiā nauk SSSR. Institut merzlotovedeniā im. V. A. Obrucheva) 57 refs. Text in Russian. Title tr.: Calculations for ice and snow structures.

"The physical and mechanical properties of ice and snow are examined, and factors influencing changes in mechanical strength are analyzed in detail on the basis of investigations within and outside the U.S.S.R. Construction experience with ice and snow in the Arctic and the northern U.S.S.R. during the last two decades is outlined, and thermal conditions inside the structures associated with heat transfer from the atmosphere and soil are calculated. The theoretical strength of ice and snow structures of various profiles is given. Structural deformations associated with changes in the properties of ice and snow with time and under the influence of external factors are mathematically analyzed. Formulas for calculating large structures made of ice and snow are given."-SIPRE.

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VOKES, F. M., see Norsk geologisk tidsskrift. Second Nordic Geologic . . . meeting . . . 1956. No. 47080.

48789. VOKRUG SVETA. Bukhta i port Ambarchik. (Vokrug sveta, Jan. 1956, no. 1, p. 62, illus.) Text in Russian. Title tr.: Ambarchik Bay and port.

The name of this bay (69°40′ N. 162°14′ E.) and town (69°40′ N. 162°24′ E.) in Russian means "small storehouse"; it derives from a hut built by Dmitri Laptev and his companions during their wintering at the mouth of the Kolyma River in 1740–41. \*\*Copy seen: DLC.

**48790.** *VOKRUG SVETA.* Novoe na karte, 1950–1955. (Vokrug sveta, Feb. 1956, no. 2, p. 7–10, illus., col. plates, maps incl. 1 col.) Text in Russian. *Title tr.:* New items on the map, 1950–1955.

Popular notes on economic developments during the fifth five-year-plan, as shown on the map of the U. S. S. R. The network of hydroelectric power stations includes those of Kola Peninsula, Arkhangel'sk Province, the Ob', Yenisey and Angara.

\*\*Copy seen: DLC.\*\*

**48791.** VOKRUG SVETA. Ostrova Komandora. (Vokrug sveta, June 1956, no. 6, p. 63, map.) Text in Russian. *Title tr.:* Commander Islands.

Discovery and origin of the names of Komandorskiye Ostrova and Ostrov Beringa. Copy seen: DLC.

48792. VOKRUG SVETA. Solnfse idet nad rodinoï. (Vokrug sveta, Jan. 1956. no. 1, p. 1–14, illus.) Text in Russian. Title tr.: The sun moves over the fatherland.

Photographs of various parts of the U. S. S. R. with brief captions are interpolated between the text of other articles; a ship unloading cargo in Magadan harbor is shown (p. 2).

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**48793.** VOKRUG SVETA. Vladimir Afans'evich Obruchev, 1863–1956. (Vokrug sveta, July 1956, no. 7, p. 8, port.) Text in Russian.

Obituary of this outstanding Soviet geologist, geographer, traveler and writer.

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48794. VOLIN, VL. Karta rodnoĭ zemli. (Sovetskaſa zhenshchina, Oct. 1956. no. 10, p. 45, port.) Text in Russian. *Title tr.:* Map of our native land.

Notes work of Ifa Vasil'evna Zaboeva for a soil map of the Komi A. S. S. R., including areas of the Pechora basin.

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VOLKOV, A. K., see Chalyk, D. A., and A. K. Volkov. Sudostroenie . . . 1956. 1956. No. 44302.

48795. VOLKOV, N. Pokorenie Angary. (Sovetskafa zhenshchina, June 1956, no. 6, p. 14, illus.) Text in Russian. *Title tr.:* Subduing the Angara.

Notes participation of women in construction of the hydroelectric plant at Bratsk on the Angara.

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48796. VOLKOV, P. A., and N. V. BELOV. Metod izvlechenina okisi kal'-faina iz apatita. (In: Khibinskie apatity. 1933. t. 6, p. 63-65.) Text in Russian. Title tr.: Method of extraction of

calcium oxide from apatite.

New combined Palmer and Erling Johnson method is described for electrolytic extraction of lime, in which nitric acid, easily available in the U.S.S.R. is substituted for chloric acid. This method is based on crystallization of calcium salt from concentrated nitric acid. Calcium nitrate, containing about 80 percent of lime from apatite, is subjected to electrolysis. Lime is deposited on the cathode and nitric acid on the anode. Further processes and their costs are outlined. Prof. Fersman's comments (p. 89) indicate that the method required further development in the laboratory before introduction into industry.

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**48797.** VOLKOV, P. A. Razlozhenie nefelina sernof i sernistof kislotami. (*In*: Khibinskie apatity, 1933. t. 6, p. 87–89.) Text in Russian. *Title tr.:* Decomposition of nepheline by sulfuric

and sulfurous acids.

Possible use of nepheline products in the chemical industry is discussed in view of the discovery of large deposits of apatite-nephelinic rocks. Nepheline (2 Na<sub>2</sub>O-K<sub>2</sub>O<sub>3</sub>·3Al<sub>2</sub>O<sub>3</sub>·6SiO<sub>2</sub>) contains more than 50 percent alkali and aluminum oxides, valuable for the chemical industry. Methods of decomposition of nepheline by sulfuric and sulfurous acids and regeneration of acid by electrolyses are described. Fersman's favorable comments (p. 89) indicate that preliminary work on obtaining intermediate products of permutite, silica-gel and neokaolin can be expanded to factory scale.

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48798. VOLLAN, ODD. Ishavsfart; selfangsten fra Sunnmøre gjennem femti år. Oslo, A. Cammermeyer, 1951. 360 p. illus., ports., maps. Approx. 40 refs. Text in Norwegian. *Title tr.:* Arctic journeys; sealing from Sunnmøre through fifty years.

With decline of the sealing in northern Norway at the turn of the century, the base for the industry shifted to Ålesund in the Sunnmøre region (ca. 63° N.). Its progress is chronicled; technical economic and international aspects, search for new fields, etc., are treated. Vessels, incidents, skippers, etc. are sketched,

among them (p. 300-303) the 1930 Bratvaag expedition, which found the remains of S. Andrée's party. The character of several North Atlantic - arctic hunting fields are distinguished. Case for rational hunting methods and management of arctic waters based on knowledge of the animals and habitat is presented by Erling Sivertsen (p. 9-53). Physical description, life history, and geographic distribution are given for four hair seals, also for walrus, polar bear, and musk ox, whose capture is combined with seal hunting. The sealers' occupational disease, spekk finger, is reviewed (p. 333-40) by Axel F. Mathiesen. The processing of sealskins is discussed by Paul Rieber (p. 340-43). Text of the 1926 sealing contract with the Russians, and tabulated data of the 1950 catch from the four main fields, are appended. Copy seen: DLC.

48799. VOLOBUEV, V. R. Klimaticheskie uslovifa i pochvy. (Pochvovedenie, Apr. 1956, no. 4, p. 24–37, diagrs., maps.) 16 refs. Text in Russian. German summary in insert. *Title tr.*: Climatic conditions and the soil.

Temperature and humidity are the main factors in formation of soil; relation of mean annual temperature and amount of precipitation to the properties of soils and to their flora is discussed on world scale. Arctic and sub-arctic (tundra and forest-tundra) soil zones and their vegetation are touched upon in the discussion.

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48800. VOLOBUEV, V. R. Ob osnovakh klassifikatsii pochv. (Pochvovedenie, Aug. 1956. no. 8, p. 74–85, tables (1 fold.), diagr.) 23 refs. Text in Russian. *Title tr.:* Principles of soils classification.

Soviet literature on the problem is surveyed, and a classification based on the genetic principle, (summarized on folded table) is proposed. Tundra and forest-tundra soils and their subdivisions are included in the scheme.

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48801. VOLODIN, E. N. Geologicheskafa s"emka Rischorra (Partomehorra). (In: Khibinskie apatity, 1933. t. 6, p. 196–97.) Text in Russian. Title tr.: A geological survey of the Rischorr (Partomehorr).

Describes geological and petrographic survey of the crests of the mountains Partompor, Partomehorr, Rischorr, the central portion of Lyavochorr and spurs of northern Suoluayv. Copy seen: DGS.

VOL'SKII, CHESLAV, see Centkiewicz, A., and C. J. Centkiewicz. Zavoevanie Arktiki . . . 1956. No. 44300.

48802. VOOUS, K. H. On Phylloscopus collybita from Norway. (Stavanger Museum. Sterna, Jan. 1955. no. 18, p. 4-7.)

Contains systematic notes and data on distribution of various geographic races of chiffchaff in Norway. P. c. tristis, a grayish brown form, recorded in Traena, Nordland (66°30' N. 12° E.) is included.

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48803. VOROB'EVA, OL'GA ANISI-Geologo-petrograficheskie issledovaniâ v Volch'el tundre. (In: Fersman, A. E. Za poliarnym krugom, 1932, p. 48-51, map.) Text in Russian. Title tr.: Geologic-petrographic explora-

tion in Volch'ya Tundra.

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Petrographic and mineralogical description is given of Volch'ya Tundra 32°15′-32°30′ (68°-68°15' N. based on investigations carried out in 1931-32 by the "Volch'ya Tundra Team" of the Academy of Sciences' Kola Expedition. Sulphide ores, composed of pentlandite, chalcopyrite, pyrrhotite, pyrite, and iron ores with 38 percent of Fe<sub>2</sub>O<sub>3</sub> and 17 percent of FeO, were found in amounts not yet established. Text map, 1:150,000.

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VOROB'EVA, OL'GA ANISI-48804. MOVNA. Khibinskafa gornafa nauchnasa stantsisa Akademii nauk. Fersman, A. E. Za poliarnym krugom, 1932. p. 79-81, illus.) Text in Russian. Title tr.: The Khibiny Mining Scientific Station of the Academy of Sciences.

Industrial development of the Khibiny region, required that expeditionary explorations be replaced by local scientific institutions to carry on continuous In 1930, a prefabricated house was brought by reindeer to the Malyy Vud'yavr Lake (67°42' N. 33°42' E.) for a mountain station, and a new, 2-3 story building, started in 1931, was completed in April 1932. The station comprises two geochemical laboratories, a mineralogical-petrographic museum, The laboratories' work has and library. 0.85-1.02 percent revealed of rare elements in apatites, and 11.2-28.12 percent in lovchorrites, including up to 0.86 percent of thorium.

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48805. VOROB'EVA, OL'GA ANISI-MOVNA. Khibinskafa gornafa stantsifa

Akademii Nauk SSSR. (In: Khibinskie apatity, 1933. t. 6, p. 268-70). Text in Russian. Title tr.: The Khibiny mining station of the Academy of Sciences U. S. S. R.

Research problems and work are described, including: the study of lovchorrite and its byproducts, analysis of minerals for rare earth content, development of methods for determining molybdenum (Mo) in ore. Expansion of research is discussed in relation to climatology, hydrometeorology. An experimental garden for vegetables, berries, grasses, etc., is added to the existing Polar Botanical Garden. A museum with representative petrographic, mineralogical and botanical exhibits is outlined. Copy seen: DGS.

48806. VOROB'EVA, OL'GA ANISI-MOVNA. Petrografo - khimicheskafa s"emka nugo-vostochnol chasti Lovozerskikh tundr. (In: Khibinskie apatity, 1933. t. 6, p. 210-13, table.) Text in Title tr.: A petrographic and Russian. chemical survey of the southwestern part

of the Lovozerskaya tundras.

Detailed petrographic and mineralogic data, plotted on the topographic map, are discussed in relation to nepheline syenite. This syenite is characterized by a paralleltrachitoid structure, and is called by W. Ramsay "luyavrite." Mineral structure of luyavrite is multiform and its components are given; one, eudialyte, contains an average of about 10 percent zirconium. Copy seen: DGS.

48807. VOROB'EVA, OL'GA ANISI-MOVNA. Poezdki A. E. Fersmana na Kol'skiĭ poluostrov, otdel'nye ėpizody. (Moskovskoe obshchestvo ispytateleľ prirody. Bûlleten', 1946. god 117, otdel geol., t. 21, no. 1, p. 116-20.) Text in Russian. Summary in French. *Title tr.:* A. E. Fersman's expeditions to the Kola Peninsula, separate episodes.

Contains brief description of A. E. Fersman's scientific activities in the Khibiny and Lovozerskaya tundra region during 1929-31. Detailed study was made of mineral-forming processes in alkaline rocks of the Khibiny and classification of basic genetic types. The geochemical types were arranged in chronological order in respect to thermal phases and content of zirconium, titanium, chlorine, fluorine, phosphorous, iron, etc. Rare and colorful mineral specimens were collected such as eudialite, lamprophyllite, astrophyllite, lovchorrite, rinkolite, etc. Fersman's analysis showed a geochemical relationship of the tundras with alkaline massives of Greenland and Arkansas. The first sulfide ores were found in the Monche tundras with minerals pyrrhotite, chalcopyrite, pentlandite. Fersman also found copper-nickel ores and predicted a large deposit, which was confirmed in 1937.

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48808. VORONETS, N. S. O vozraste "autsellovogo gorizonta" severnoi chasti Lenskogo basselna. (Akademia nauk SSSR. Doklady, June 1, 1956. t. 108, no. 4, p. 695–96.) 6 refs. Text in Russian. Title tr.: On the age of the "Aucella horizon" of the northern Lena basin.

Ten layers of the so-called "Aucella horizor" in the Bulun region of Yakutia are studied on the basis of S. S. Ershova's collection in 1952. Conglomerates are described and typical fossil faunal species noted. The geological age is late Jurassic and early Cretaceous. The term "Aucella horizor" is misleading.

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48809. VORREN, ØRNULV. Gjeterstav og ornamenter. (Ottar, Tromsø, Dec. 1955. nr. 7, p. 5–8, illus.) Text in Norwegian. *Title tr.*: The herdsman's

staff and ornamentation.

The southern reindeer Lapp's staff was made with a horn or wooden shovel on one end for digging in snow to uncover fodder. In Finnmark the staff was a simple pole, often carved, with a heavy root base. A staff found at Vuorjegaissa is described. It has ornamental carving characteristic of Karasjok on one side and of Kautokeino on the other. Copy seen: DLC.

48810. VORREN, ØRNULV. I sameleiren på Tromsø museum. (Ottar, Tromsø, Oct. 1956. nr. 8, p. 17–22, 2 illus.) Text in Norwegian. Title tr.: In the Lapp camp at Tromsø Museum.

A nomadic Lapps' winter camp was built at the Museum in 1952. The sled, food and supply platforms, wood and chopping block, hemispherical tent support and interior fittings and arrangement are described.

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48811. VORREN, ØRNULV. Njalla. (Ottar, Tromsø, Mar. 1955. nr. 4, p. 10–12, 2 illus.) Text in Norwegian. Title tr.: Njalla.

The njalla is a storehouse with floor space up to 2 x 1.5 m. and 1.5 m. in height, on one or two stilts 6-7 m. long. Commonly found at the temporary fall

and spring campsites of reindeer Lapps in the Jokkmokk region of Sweden, it has also been known in Sør-Varanger, Karasjok, and Kautokeino in Finnmark, but is now becoming rare.

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48812. VORREN, ØRNULV. Offerplass og villreinfangst. (Ottar, Tromsø, Oct. 1956. nr. 8, p. 12–14, illus.) Text in Norwegian. *Title tr.:* Offering place and wild reindeer capture.

A stone offering place built on a pass between Varangerfjord and Tanaelv looked out over concealed pits in the reindeer paths. Near a similar place in Porsanger, the reindeer were driven to swim to an island and captured while swimming. New light is thus thrown on the location and nature of offering places.

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48813. VORREN, ØRNULV. Samekulturen i skrift og forskning. Sami kultura čállagiid ja dut'kama sis'te. Tromsø, Oct. 1956. 32 p. 10 illus. (Ottar, nr. 9) Text in Norwegian and Lappish. *Title tr.:* Lapp culture in writing and research.

Early writings about Lapps are summarized. The serious work of collecting and preserving their culture began some 150 years ago with Lapps as active participants. Several Fennoscandian nuseums are special repositories of Lappish culture.

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48814. VORREN, ØRNULV. Sølvkragen fra Härjedalen. (Ottar, Tromsø, Feb. 1955. nr. 3, p. 17–20, 2 illus.) Text in Norwegian. *Title tr.:* The silver collar from Härjedalen.

A south Lapp costume piece of 1400–1500 A. D., in the Museum, is described and compared with that of the northern Lapps. Family heirlooms, used on festive occasions, their silver, pewter, and glass ornamentation was a sign of wealth and social position. Copy seen: DLC.

48815. VORREN, ØRNULV. Stallosagn og stalloknapp. (Ottar, Tromsø, Dec. 1955. nr. 7, p. 17–19, illus.) Text in Norwegian. *Title tr.:* The Stallo myth and the Stallo button.

Refers to tales of Stallo, a mythical figure in Lapland. Themes include combat and silver trophies, one of which is a silver button in the Tromsø Museum.

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48816. VORREN, ØRNULV. Verdens fineste runebom-hammer; et minne fra førkristen religiøs kultus hos samene. (Ottar, Tromsø, Mar. 1955. nr. 4, p. 15-17, illus.) Text in Norwegian. Title tr.: The world's finest runic drum hammer; a memento of pre-Christian religious cult among the Lapps.

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An ornamented reindeer horn hammer is described. Resembling the top of a crutch, its ornamental lateral piece measures 21.3 cm. and the handle 25 cm. Found at Langstrand on Sørøy in Finnmark, northern Norway, in 1949, it was used during soothsaying and ecstatic ceremonies.

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48817. VOSKOBOĬNIKOV, M. G. "Vsûdus Évenkami Lenin . . ." (Zvezda, Apr. 1956, no. 4, p. 104–107.) Text in Russian. *Title tr.*: "Lenin is everywhere with the Evenki."

Notes on progress of acculturation in the Evenki (Tungus) National District, and on folklore and literature of the Evenki, Chukchi and other northern peoples dedicated to memory of Lenin.

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48818. VOSKRESENSKIĬ, KONSTANTIN PETROVICH. Gidrologicheskie raschety pri proektirovanii sooruzheniī na malykh rekakh, ruch'ākh i vremennykh vodotokakh; metodicheskie osnovy i praktika. Leningrad, Gidrometeorologicheskoe izd-vo, 1956. 461 p. tables, graphs, maps (incl. fold.). 73 refs. Text in Russian. Title tr.: Hydrological computations for designing installations on small rivers, brooks and temporary water run-off; methodical bases and practice.

Characteristics of small streams by analogy with those known of large rivers are applied in this hydraulic engineering study under zonal and climatic conditions in the U.S.S.R. As the construction and use of installations is conditioned by specific physical geographic factors, this study is arranged in relation to these factors: water flow in tundra, marshland, forest, cave, lake, etc. Large and small rivers, brooks, etc., are defined on the basis of length, area of run-off, average water flow, depth of stream, etc. Of some 150,000 rivers in the U.S.S.R., 84 percent are small (25 km.2), hence interest in their study. Their hydrology affects agricultural requirements, irrigation and hydro-electric plants, as well as construction of bridges, canals, etc., and protection of railroads and highways. The importance of temporary and seasonal run-off for water reservoirs, ponds, etc. (especially in western Siberia) is con-

Minimum and annual average water flow and run-off are computed with interpolation of physical-geographic factors of the run-off and consideration of the analogy of small with large rivers. The resulting data are plotted with isolines on maps (opp. p. 54). The effect of ice formation in rivers, in tundra and permafrost regions is discussed (p. 297, 305) in relation to reduction of river flow. Theoretical surface evaporation losses (cm./month) are formulated with semiempirical equations in relation to geographic zones and average wind velocities. Isolines for surface evaporation (without ice cover) are plotted on maps (p. 350). Regional arrangement of the evaporation coefficient is shown (map, table, p. 355, 357). Average turbidity and chemical characteristics of rivers are indicated on maps (p. 392, 420). Appendices (5) offer tables with various coefficients and geographic coordination of approx. 200 major centers. Copy seen: DLC.

48819. VOSTOKOVA, V. A. Klass Gastropoda - brûkhonogie. (*In:* Leningrad. Vsesoûznyî geologicheskiî institut. Polevoî atlas ordovikskoî i siluriîskoî fauny Sibirskoî platformy, 1955. p. 82–86, illus.) Text in Russian. *Title tr.:* Class Gastropoda.

A general description of the snails (mostly aquatic) of the area (Siberian platform) is presented, and their condition of preservation and occurrence discussed. Ten forms are described, one of them new. Several are also reported from other parts of Asia, Europe and North America.

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VOSTROTIN, S. V., see Slavin, S. V. Plavani\(\hat{a}\) cherez Karskoe more . . . 1949. No. 48060.

48820. VOSTROV, A. I., and V. A. SHIL'NIKOV. Ob ustolchivosti gravilnykh osnovanii pod asfal'tobetonnymi pokrytiami (v poradke obsuzhdenia). (Avtomobil'nye dorogi, Mar. 1956. god 19, no. 3 (161) p. 8–10, illus., table.) Text in Russian. Title tr.: Resistance of gravel roadbeds under asphalt-concrete cover (in order of discussion).

The effect of the petrographic and granulo-metric composition of the gravel on resistance under various ground moisture conditions is studied. Special consideration is given to periodic freezing and thawing of the road, and to the frost-resistant properties of gravel materials. The characteristics of the composition of

the concrete mixture (petrographic pressure, relative moisture, module of deformation, etc.) are described, also presented in tables. **Copy seen:** DLC.

VOUK, V. B., see Kostial, K., and V. B. Vouk. The influence of temperature . . . acetylcholine output . . . 1956. No. 46097.

VOVK, TS. L., see Leningrad. Nauchnoissledovateľskií institut geologii Arktiki. Metodicheskie issledovaniía po geokhimii . . . 1956. No. 46312.

48821. VOYAGE EN TRAÎNEAU; curieuses aventures d'une expédition américaine dans la Sibérie orientale; souvenirs personnels. Lille, Librarier Saint-Charles; Grammont, Belgium, Oeuvre de Saint-Charles, [187-?]. 173 p. illus. Text in French. Title tr.: Sledge journey; curious adventures of an American expedition in eastern Siberia; personal recollections.

Contains a popular account of the travels and adventures of R. J. Bush's party with the Western Union Telegraph Expedition in Siberia, 1865–1867. Living conditions in the different seasons are described, particularly the hardships of winter. Various physical phenomena are noted, including mirages and halos. Apparently drawn from No. 2562 and (chap. 8) No. 7395 of Arctic Bibliography.

Copy seen: AMAU.

VOZNESENSKIĬ, A., see Beschinskiĭ, A., and A. Voznesenskiĭ. Osnovnye problemy razvitiía gidroėnergetiki . . . 1956. No. 44012.

48822. VOZNESENSKIĬ, A. N., and I. A. TERMAN. Gidroenergeticheskie resursy SSSR. (Gidrotekhnicheskoe stroiteistvo, May 1956. god 25, no. 4, p. 13-20, tables, map.) Text in Russian. *Title tr.:* Hydro-electric power resources in the U. S. S. R.

The European and Siberian distribution of potential hydro-electric power is described in detail. Average annual data estimated for different regions including arctic basins from the White to Bering Seas and major northern rivers are tabulated; and power distribution densities are indicated on the map.

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48823. VROOMAN, C. W., AND ASSOCIATES. Some potentials and problems of cattle ranching on Kodiak Island, Alaska. Palmer, Alaska. Agri-

cultural Experiment Station, June 1956. 32 p. tables. process print.

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An appraisal of the livestock industry of this island as to its profitability; its ways of operation (feed and grazing, soil, calving, diseases, etc.); prospects and means of increasing production: mainly by expanding existing ranches; quality of beef production and ways of its improvement; market needs, ways of expanding the market; factors limiting development (chiefly operational); program of development.

\*\*Copy seen: CaMAI.\*\*

48824. VSESOſŪZNAſĀ AKADEMIſĀ SEL'SKOKHOZ ÍA Í STVENNYKH NAUK IMENI V. I. LENINA. Raboty po gel'mintologii; sbornik, posvíáshchennyl tridtsatiletifu nauchno-pedagogicheskol i obshchestvennol desatel'nosti Konstantina Ivanovicha Skrabina i patnadtsatiletifu Vsesofuznogo instituta gel'mintologii. Pod red. R.-E. S. Shul'ts, M. P. Gnedinol. Moskva, 1937. xxii, 796 p. illus., port. Title, etc. tr.: All-Union Academy of Agricultural Sciences of Lenin. Works on helminthology; a collection in commemoration of Konstantin Ivanovich Skrabin's 30 years' activity in science, teaching and public affairs, and of the 15 years of existence of the All-Union Institute of Helminthology. Ed. by R.-E. S. Shul's and M. P. Gnedina.

Contains account (p. v-viii) of the scientific work and career (1905–1935) of the renowned helminthologist and founder of the Soviet Helminthological school, K. I. Skriabin; followed by 127 papers by specialists, about 60 percent in Russian, the rest in English, French or German; contents table in Russian and English. Three of the papers, dealing with specifically northern problems, are abstracted in this Bibliography under their authors' names, viz. (titles tr.):

their authors' names, viz. (titles tr.):
CAMERON, T. W. M. A new species
of Heligmosominae from the Labrador
collared-lemming, p. 66-68 (in English).

collared-lemming, p. 66–68 (in English). PUSHMENKOV, E. P. The trichostrongilid fauna found in the abomasum of reindeer, p. 550–59 (in Russian.)

TAKHISTOV, B. A. The dictyocaulosis of reindeer on Kola Peninsula, p. 713-16 (in Russian).

Copy seen: DLC.

VSESOŪZNOE GEOGRAFICHESKOE OBSHCHESTVO, see P., Z. Fizikogeograficheskoe ralonirovanie severa . . . 1956. No. 47220. 48825. VTŪRIN, B. I. O nekotorykh geomorfologicheskikh terminakh v geokriologii. (In: Akademia nauk SSSR. Institut merzlotovedenia. Materialy k osnovam uchenia o merzlykh zonakh zemnol kory, 1956. vyp. 3, p. 126–34, chart, table.) 11 refs. Text in Russian. Title tr.: Several geomorphic terms in geocryology.

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Revision of terminology related to permafrost and phenomena associated with frost action in soil is discussed, and new principles of a genetic classification are given. In analysis of cryogenetic relief forms, the following processes are discussed: cryogenetic erosion, sorting of materials in freezing and thawing processes, solifluction, frost fissuring, etc., thermokarst, swelling and other phenomena. Meaning of "merzlota" (congelation) is discussed, correlation of other specific factors in cryogenetic relief (chart). Classification of polygonal relief forms is described and tabulated.

Copy seen: DLC.

VTOROV, N. A., see Medvedev, V. M., and others. Povyshenie morozostoľkosti . . . betona . . . 1956. No. 46683.

48826. VYSHEMIRSKIĬ, V. S. Verkhnepaleozoĭskie i mezozoĭskie oblasti razmyva i osadkonakopleniâ tŝentral'not Ākutii. (Akademiâ nauk SSSR. Doklady, Oct. 11, 1954, nov. ser., t. 98, no. 5, p. 821–23.) 5 refs. Text in Russian. *Title tr.:* Upper Paleozoic and Mesozoic regions of erosion and sedimentation in Central Yakutia. Previously listed as No. 38133.

The sedimentation indicates a broad basin, covering the regions of Verkhoyansk, Vilyuy depression and slopes of the Anabar and Aldan shelfs in the Jurassic period, which was reduced during the lower Cretaceous period. Further detailed geological analysis is made on the basis of material collected and statistically arranged. This confirms an early assumption of the boundary of region of erosion and sedimentation passing north of Yakutsk on the line, Aldan-Lena. Copy seen: DLC.

48827. VYSOTSKATA, S. O. Kratkií opredeliteľ blokh imefushchikh épidemiologicheskoe znachenie. Moskva-Leningrad, Izd-vo Akademii nauk SSSR, 1956. 99 p. 207 illus. (In: Akademia nauk SSSR. Opred. po faune SSSR, no. 63.) 45 refs. Text in Russian. Title

tr.: A brief key to fleas of epidemiological importance.

Contains a systematic index to the super-family Pulicoidea, and in the introductory part (p. 9-34), a morphological sketch, data on the biology and epidemiological importance of fleas as carriers of microbes of the most dangerous epidemics; techniques of gathering and microscopic preparations are described. In the special part, are the keys to five families, twelve sub-families, 20 genera and 82 species, with data on hosts (chiefly small mammals, rodents and birds) and importance as vectors of diseases. Species occurring in northern regions of U. S. S. R. are included. Indices of the names of fleas and their hosts are appended. Copy seen: DLC.

48828. VYSOTSKIĬ, KONSTANTIN PETROVICH, and others. Transport torfa. Moskva, Gos. ėnergeticheskoe izd-vo, 1955. 256 p. illus., diagrs., graph, 22 refs. Text in Russian. Other authors: V. S. Larionov and P. P. Samoslov Title tr.: Peat transport.

Construction and maintenance of main railroads and auxiliary field connections for the peat storage depots are presented in detail. Construction of bridges, embankments, excavations, fillings and causeways over marshland and soft ground, reinforcements of river banks, etc., are described, with illus. (p. 14-29). Winter maintenance of roads with snow removers is outlined (p. 57-58). Methods and mechanized equipment for loading peat in the field are described, and operations graphically represented (p. 112-223). Special attention is given to preparation for loading and transportation of peat under winter conditions. Removal of snow, ice and frozen peat surface by excavators and cranes prior to actual loading is shown. Loading of frozen peat requires more power and time (p. 187-89). Copy seen: DLC.

48829. WACHTMEISTER, ARVID. Naming and reincarnation among the Eskimos. (Ethnos, 1956. v. 21, no. 1–2, p. 130–42.) 30 refs.

Describes the custom of naming a newborn child after a recently deceased person, usually a relative, with the idea of transferring to the child the qualities of the deceased. Child-naming customs of various Eskimo groups: the West- and East-Greenland, Polar, Baffin, Labrador, Caribou, Iglulik, Netsilik, Copper, Mac-

kenzie, Alaskan (Yukon River), and Chugach, are considered in turn. The problems of reincarnation, name taboo, mild treatment of children due to fear of offending an ancestral soul, etc., are discussed. Only among the Copper Eskimos this naming custom exists without notions of reincarnation and name-taboo.

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48830. WADSTEIN, ELIS. Friserna och forntida handelsvägar i Norden. Göteborg, 1920. 22 p. map (Göteborgs kungl. vetenskaps- och vitterhets-samhälle. Handlingar, 1918–1919, 4 följden, häft. 21–22.) Text in Swedish. *Title tr.:* The Frisians and former trade routes in the North.

Review of Frisian seafaring activities in pre-Viking times, including their journeys to Bjerkøy, Norway, at 69° N. (the name Bjerkøy is related to a Frisian term signifying an independent trading place.) References are made to shipping of weapons northward to trade (probably with Lapps) for furs and to Ottar's chronicles.

\*\*Copy seen: DLC.\*\*

WÄRME, KARL ERIK, see Fonselius, S., and others. Carbon dioxide variations . . . 1956. No. 44934.

**48831.** WAGNER, FRED W. Employment security in Alaska. (*In:* Alaskan Science Conference . . . 1952. Proceed-

ings, pub. 1954, p. 164.)

Employment fluctuates in relation to the economic situation in the continental United States; effects of gold mining, federal spending, seasonal industries are noted. The employment security system started in Jan. 1939, combines an employment service with an unemployment insurance system; the construction industry had the largest number of covered employees in 1951.

Copy seen: DGS.

48832. WAHL, HERBERT ALEXAN-DER, 1900— A preliminary study of the genus *Chenopodium* in North America. (Bartonia, 1952–53. no. 27, p. 1–40, 15 illus.) 14 refs.

Contains description of characters of the genus, keys to the sections and species, and a systematic, annotated list of 48 (two new); three new combinations and two new stat. are established. C. glaucum var. glaucum (Labrador) and C. pratericola (northern Canada and Alaska) are included. Copy seen: DA. 48833. WAHLBERG, ERIK. Ackjefyndet från Soukolojärvi. (Norrbottens läns hembygdsförening. Årsbok 1956, p. 80–92, illus.) 6 refs. Text in Swedish. *Title tr.:* The sledge find from Soukolojärvi.

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Contains a detailed description of the sledge and the place where it was discovered in 1953 (66°29' N. 23°31.5' E. in Overtornea parish, north Sweden). Further finds were made in 1955. The sledge rather resembles a boat than a modern sled and is the only one found so far with a separate hollow bow. The development from boat to modern sleds is outlined in its various stages. The finds are thought to date from the later Roman iron age or the era of the Great Migration.

Copy seen: SPRI.

48834. WAHLGREN, EINAR OTTO, 1874—. Über die alpine und subalpine Collembolenfauna Schwedens. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 4, Zoologie, Lfg. 7, pub. 1919. p. 743–62.) 40 refs. Text in German. Title tr.: On the alpine and subalpine Collembola fauna of Sweden.

Contains a systematic annotated list of 22 species of sprintails from the Sarek Mountains, followed by a distribution table of 65 species in subalpine (coniferous forest and birch zones) and alpine (meadow and lichen zones) regions of northern Scandinavia. A discussion is added of the ecological-geographical subdivision of this fauna (by host plants and habitat) and of its faunistic-geographical elements: northern, northwestern, boreal and southern elements, etc.

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WAHLGREN, EINAR OTTO, 1874–, see also Schött, H. G. Hoppstjärtar: Collembola. 1931. No. 47840.

48835. WAHRBERG, RAGNAR. Sveriges marina och lacustra isopoder. Göteborg, 1930. 76 p. 89 illus. on 18 plates. (Göteborgs kungl. vetenskaps- och vitterhets-samhälle. Handlingar. 5 följden, ser. B, bd. 1, no. 9.) 98 refs. Text in Swedish. Title tr.: Sweden's marine and lacustrine isopods.

Systematic description of isopods includes 25 species known in arctic regions from the Barents Sea to northern Canada. Cited depths of occurrence range to 2000 meters. Several species are identified as parasitic.

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WAINES, RUSSELL H., see Fritz, M. A., and R. H. Waines. Stromatoporoids . . . Abitibi River . . . 1956. No. 44981.

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48836. WALDENSTRÖM, JOH. Minnen från en kanotfärd i Lappland sommaren 1892. (Svenska turistföreningen, Stockholm. Årsskrift, 1897, p. 307–331.) Text in Swedish. *Title tr.:* Memories from a canoe trip in Lapland during the summer of 1892.

Probably the first canoe trip in arctic Sweden: the party traveled the lake route from Jokkmokk to Kvikkjokk and return; then overland to Gällivare and Murjek, and downstream by timber raft.

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48837. WALKER, EDMUND MURTON, 1877— . List of the Odonata of Ontario with distributional and seasonal data. (Royal Canadian Institute, Transactions, Oct. 1941. v. 23, pt. 2, no. 50, p. 201–265, text map, table.) 72 refs.

Contains general descriptions of dragonfly faunas of various sections of Ontario, including northern one, followed by a systematic list of 147 species with distributional data. At least 14 species are listed in the Hudsonian zone "where dragonflies as a whole make their last stand in the face of the Arctic."

Copy seen: DLC.

48838. WALKER, ERNEST PILLS-BURY, 1891- . Alaska bird colonies. (Washington Academy of Sciences. Journal, Nov. 19, 1928. v. 18, no. 19, p. 520.)

"In addition to the notable colonies of sea birds on Forrester, Hazy, St. Lazaria, Tuxedni, Bogoslof, St. Matthew, Chamisso, and the Aleutian Chain... there are numerous less well-known islands and portions of the mainland coast where large numbers of sea-birds nest."—Author's abstract.

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48839. WALKER, ERNEST PILLS-BURY, 1891—. The wild life of Alaska and its protection. (Washington Academy of Sciences. Journal, Sept. 19, 1926. v. 16, no. 15, p. 429.)

Game animals and birds are important as a local food source, and as attraction to non-resident big game hunters; the annual fur harvest is worth about two million dollars. The Alaska Game Commission restocked some regions in 1925 at a cost of \$10,000. Beavers and muskrats were placed on the Kodiak-Afognak Islands. Prospects in wildlife supply,

protection, etc., are favorable; policing is carried on cooperatively with British Columbia and Yukon Territory.

Copy seen: DLC.

WALL, J. H., see Stelck, C. R., and others. Middle Albian Foraminifera . . . 1956. No. 48194.

48840. WALLACE, GEORGE BROWN, 1919—. Insulation facilitates winter concreting. Appropriate field information contributed by: James T. Wynhoff, Shirl A. Evans and Mac. D. Newsom. Denver, Technical Information Branch, Denver Federal Center, 1955. iv, 42 p. illus., diagrs., tables (U. S. Bureau of Reclamation. Engineering monograph no. 22.)

Contains the results of field trials to determine the effectiveness of various types of insulation for protecting fresh concrete placed during freezing weather. Insulation materials tested include spun glass blankets, factory-made rock-wool bats, job-made rock-wool blankets, fiber insulated board, and balsam-wool bats. Computed thicknesses of insulation for safe protection at various minimum air temperatures are tabulated, and derivation of the formulas on which the tables are based is appended.

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48841. WALLACE, JANE HOUSE, 1926—, and H. G. B. SMITH. Bibliography of U. S. Geological Survey trace elements and related reports to June 1, 1954. Washington, D. C., U. S. Govt. Print. Off., 1955. p. 63–144. (U. S. Geological Survey. Bulletin 1019–B. A contribution to bibliography of mineral resources.)

Lists reports and maps available to the public on radioactive raw materials. References are grouped according to source or type of publication: various U. S. G. S. series; Technical Information Service (U. S. Atomic Energy Commission); Nuclear science abstracts; scientific journals; etc. Subject-state-area and author indexes are appended. Many references to Alaska are included.

Copy seen: DGS.

48842. WALLACE, ROBERT EARL, 1916— Notes on permafrost investigations in Alaska. (Washington Academy of Sciences. Journal, Oct. 15, 1947. v. 37, no. 10, p. 372.)

Cave-in or thermokarst lakes in Nabesna and Chisana River valleys were studied in connection with the Geological Survey - Chief of Engineers' Office permafrost project. Characteristics disclosed enable identification of such depressions in aerial photographs.

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48843. WALLACE, WILLIAM STEWART, 1884—. Documents relating to the North West Company. Edited, with introduction, notes, and appendices by W. Stewart Wallace. Toronto, The Champlain Society, 1934. ix, 527 p. 5 ports. (Publications of the Champlain Society.) 70 refs.

The "constitutional history" of this fur-trading company (cf. No. 3701) is presented in text of documents, etc., published and unpublished, the latter mainly from the Hudson's Bay Co. archives London, also various Canadian sources. They consist of extracts from reports, letters, and journals of Company officials and others, deeds and agreements, minutes of meetings and transactions, between Aug. 1772 and Feb. 1827. historical introduction deals with the period covered by the documents. Appended is a biographical dictionary of the Nor'westers and a selected bibliography relating to the history of the North West Company. Copy seen: DLC.

48844. WALLACE, WILLIAM STEW-ART, 1884—. The pedlars from Quebec, and other papers on the Nor'Westers. Toronto, Ryerson Press [1954] xii, 101 p. illus.

Essays (11) based on papers and records of the North West Company and on Hudson's Bay Company journals. Essays deal mainly with fur traders of the period 1760-1779 when the first North West Co. was formed: Peter Pond, Simon McTavish, the break between Alexander Mackenzie and McTavish; Simon Fraser of Ste. Anne's, the firm of Forsyth, Richardson and Co., its part in the fur trade and relations with the North West Co. The four last papers are on Indian wives of the Nor'westers; Fort William, wilderness headquarters of the Company during the early 19th century: Bear Island post on Lake Timagami in northern Ontario; early history of Muskoka.

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48845. WALLÉN, AXEL, 1877–1935. Nederbördskartor över Sverige. Stockholm, 1924. 8 p. 3 plates (1 fold.), maps, tables. (Sweden. Meteorologiska och hydrologiska institutet. Meddelanden, bd. 2, no. 3) Text in Swedish. Summary in French. Title tr.: Precipitation maps of Sweden.

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The annual mean precipitation for all Swedish stations for the period 1911–1920 is tabulated. Selected data are utilized to compute the precipitation on a country-wide basis for the period 1881–1920. Monthly values for some 60 Swedish stations (several in the far North) are tabulated in parts per thousand of the total annual value. These values are also mapped.

\*\*Copy seen: DWB.\*\*

48846. WALLER, ROGER M. Ground-water supplies in the Juneau area, Alaska. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1809.)

Abstract of paper presented at the Seventh Alaskan Science Conference (AAAS), Juneau, Sept. 27–30, 1956. Water-bearing sands or gravels are found overlying, within, or beneath the glacial till which is the predominant surficial material on both sides of Gastineau Channel. Near mouths of larger streams that disgorge from the mountains, sand and gravel deposits contain potable water. Bedrock, where extensively fractured, supplies a limited amount.

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48847. WALLERSTEIN, GEORGE. Navigation on the Greenland ice sheet. (Navigation, Dec. 1956. v. 5, no. 4, p. 181-82.) 3 refs.

Methods of navigation employed by SIPRE's Project Jello during the summer of 1955 are described. The group of six men traveled in four weasels 1200 miles from Thule to the French Central Station, then WSW to a point near the marginal crevassed zone. Steering was accomplished by the navigation weasel, which carried a sun compass, a gyro, and a magnesyn compass. A reading with the sun compass was obtained every five miles and the gyro set accordingly. A run of 25 miles was made every second day and the system worked so well that a maximum deviation of one mile was measured from the dead reckoning position at the end of each run.

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48848. WALLERSTEIN, GEORGE. Refraction observations on the Greenland icecap. (Navigation, Sept. 1956. v. 5, no. 3, p. 138-40, tables.) 6 refs.

Contains results of observations of sun refraction at low altitudes made during the summer of 1955 along a route from Thule eastward then south to the Central Station of Expéditions polaires françaises at 70°55' N. 40°38' W. The trip was part of expedition Jello of the U.S. Army Corps of Engineers' Snow Ice Permafrost Research Establishment. Observations were taken with a Wild T-2 theodolite under all conditions with a visible sun and always over a snow surface. results show that for ship or aircraft navigation, solar observations may be used down to about one degree, with errors no more than one minute. A slightly greater error may be introduced for measurements between one degree Tables of raw data and and the horizon. mean refraction are included.

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48849. WALLQUIST, EINAR, 1896—. Att få komma. Stockholm, A. Bonnier, 1947. 227 p. 19 plates. Text in Swedish. *Title tr.*: To be able to come.

A Swedish doctor in Lapland presents and illustrates 14 character sketches and accounts of local happenings; his eighth such volume. Copy seen: DLC.

48850. WALLQUIST, EINAR, 1896—. Blott en dag. Stockholm, A. Bonnier, 1955. 220 p. illus. Text in Swedish. *Title tr.:* Only a day.

Popular sketches from thirty years' experience as physician in Swedish Lapland. A brief history of medical practices in the locality is included, p. 165–73. Illus. with author's drawings.

\*Copy seen: DLC.\*

48851. WALLQUIST, EINAR, 1896—. Få mans land. Stockholm, A. Bonnier, 1939. 277 p. illus. Text in Swedish. *Title tr.:* Few men's land.

Writer's professional experiences as a physician and his observations of life in Swedish Lapland. Medical, social, and economic problems of the region, the effects of physical isolation, persistence of the self-sustaining household, spread of a cash economy based on wages and regular work hours, etc., are touched upon, as well as local wildlife, and social heritage of the Lappish people. Illus. by the author.

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48852. WALLQUIST, EINAR, 1896—. Med varandra. Stockholm, A. Bonnier, 1949. 227 p. ports, illus. Text in Swedish. *Title tr.*: With one another.

Character sketches representing the life and customs of present-day Swedish Lapps: settled Lapps with such introduced facilities as electricity, radio, telephone, etc.; also nomads whose life with migrating herds remains little affected by modernizing influence.

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48853. WALLQUIST, EINAR, 1896— . Mer än mantalsskriven. Stockholm, A. Bonnier, 1951. 231 p. plates. Text in Swedish. *Title tr.:* More than a census record.

Eleven sketches of life in Swedish Lapland, and problems of poverty and insecurity in old age, lack of opportunity in youth, small communities in conflict with modern economy, etc.

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48854. WALLQUIST, EINAR, 1896—. Möte med granne. Stockholm, A. Bonnier, 1943. 273 p. illus. Text in Swedish. *Title tr.:* Meeting with neighbors.

Sketches (17) dealing with relations among neighbors in northern Swedish Lapland; local happenings, doctor-patient anecdotes, and aid rendered migrants crossing both east and west borders in times of stress. Illus. with author's drawings.

\*\*Copy seen: DLC.\*\*

48855. WALLQUIST, EINAR, 1896— . De tolv månaderna. Stockholm, Bonnier, 1953. 221 p. illus. Text in Swedish. *Title tr.:* The twelve months.

Month-by-month description of life in Swedish Lapland: people, individually and generally, natural conditions, etc.

The writer is a medical doctor at Arjeplog.

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WASLH, J. P., see National Research Council of Canada, Associate Committee on Soil and Snow Mechanics. Proceedings . . . Eastern Muskeg . . . Meeting . . . 1956. 1956. No. 46943.

48856. WALTER, C. Hydracarinen der nordschwedischen Hochgebirge, erster und zweiter Teil. (In: Hamberg, A. Naturwissenschaftliche Untersuchungen des Sarekgebirges in Schwedisch-Lappland, 1907–1939. Bd. 4, Zoologie, Lfg. 5, pub. 1914. p. 587–638, 3 illus., plates 8–9.) Text in German. Title tr.: Hydracarina of the northern Swedish high mountains, first and second parts.

Describes 28 water mites (six new), mostly from the Sarek Mountains, but some from other localities of Swedish Lapland; the distribution in Europe is given. In pt. 2, notes and distributional data are offered on 16 mites, of which four (one new), should be added to those described in the first part. The distribution of the 32 species in Swedish Lapland is discussed (cf. tables p. 624, 629), and notes added on the biology and ecology. Copy seen: MH-Z.

48857. WALTERS, VLADIMIR. The ribbed sculpin, Triglops nybelini, Spitsbergen waters. (Copeia, May 20,

1955, no. 2, p. 145-46.)

Study of a small collection (nine specimens) of this fish obtained by H. K.-M. Lund in Forlandsundet. Sept. 10, 1953, depth 200 m., bottom temperature 2° C. It is compared with the closely related T. pingeti. Previous records of T. nybelini are from Greenland waters, Labrador and Ungava Bay. Copy seen: DLC.

48858. WARD, IRA J., and others. Mechanical stabilization of a gravelly sand from the beach at Point Barrow, Alaska. Ames, Iowa, July 1, 1955. iv, 58 l., illus., diagrs., tables, maps. (Iowa State College Engineering Experiment Station, Progress report, Project 320-S, contract Nonr-530 (04) Geography Branch. Office of Naval Research) 22 refs. Other authors: R. L. Handy, D. T.

Davidson, and C. J. Rov.

Several samples of beach material were collected from the vicinity of Pt. Barrow to determine if the beach might be stabilized by additions of locally available binder materials. Samples of tun-dra were tried as binder materials. Plasticity and gradation properties were measured in each of the various samples, and mixes were proportioned to meet standard granular stabilization specifications. Samples of the various mixtures were then compacted to simulate field compaction with rollers, and the compacted specimens were tested to determine the effectiveness of the treatment. The best mixture obtained has a California bearing ratio of 31 after soaking in water for 72 hrs. The value of 31 indicates that the stability is probably not adequate for permanent base or surface course construction. The low stability appears to be due to the highly rounded nature of the beach aggregate.

Copy seen: CaMAI.

WARD, IRA J., see also Handy, R. L., and others. Application of mechanical stabilization . . . beach . . . 1956. No. 45421.

WARD, JAMES WILLIAM, 1909-, see Owens, G., and others. Electroencephalographic responses . . . reduced blood flow. 1956. No. 47216.

48859. WARD, WILLIAM H. Snow accumulation and ablation. (Nature, London, Mar. 24, 1956. v. 177, no. 4508, p. 563-64.) 11 refs.

Contains summary of discussion meeting on this subject, organized jointly by the Royal Meteorological Society and the British Glaciological Society and held in London on Jan. 18, 1956. Few studies of the mass and heat budget of a glacier have been made due to the difficulties of measurement. A simple field method is needed of separately recording the total masses of water and ice in a melting snow profile.

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WARD, WILLIAM H., see also Robin, G. de Q., and others. The future . . . glaciology . . . 1956. No. 47616.

48860. WARDLE, J. M. A major power plan for Yukon River waters in the Canadian Northwest. (Institution of Civil Engineers. Proceedings, July 1957. v. 7, p. 441-64, diagr., maps.) paper no. 6213. Summary in Roads and construction, July 1957, v. 95, no. 7, p. 130-31.

An overall plan is outlined for a power project, including power plants and industrial sites, for an area approx. 58°30'-59°10′ N. 133°-134° W. between Lake Atlin and Taku Inlet. The power plan has a potential of nearly 5 million hp. The effects of climate, seismic disturbances, and glacial areas are discussed briefly. The project is adaptable to construction by stages (four); if developed, it would have a stimulating effect on Canadian resource development. The undertaking is recommended in spite of possible competition from nuclear power plants. This plan is based on four years' survey by Ventures - Frobisher - Quebec Metallurgical Industries Ltd.

Copy seen: DGS.

WARDROP, OLIVER, see Mikhallovskil, V. M. Shamanism . . . 1894. 46743.

WARMAN, NATHAN E., see Owren, L., and others. Arctic radio wave propagation . . . 1956. No. 47217.

48861. WARNECKE, GÜNTER. Ein Beitrag zur Aerologie der arktischen Stratosphäre. Berlin, D. Reimer, 1956. 2 p. l., 60 p. diagrs., tables, maps. (Berlin. Freie Universität. Institut für Meteorologie und Geophysik. Meteorologische Abhandlungen, Bd. 3, Heft 3.) 38 refs. Text in German. *Title tr.:* A contribution to the aerology of the arctic stratosphere.

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Significant deviations of stratospheric temperatures from expected mean values were found from radiosonde observations over Alert, Ellesmere Island, during the winters of 1951-1954. Upper-air charts for stratospheric levels up to 20 km. were used to investigate extreme temperature and pressure conditions in the arctic stratosphere up to the 100- and 50-mb levels. Some of the periods of extremely high stratospheric temperatures Alert were explained by effects of the tropospheric and stratospheric circulation over the entire Northern Hemisphere on the high levels over the Arctic. Special studies were made of the motions of the hemispheric circulation centers, represented by the two high-reaching atmospheric centers of cold air over northeastern Siberia and the Canadian Arctic Islands, and their effects on stratospheric temperature changes. The sudden heating of the arctic stratosphere and the associated anticyclogenesis over northwestern Canada during the first half of Feb. 1952 (Thule phenomenon) could not be definitely explained, but an advective connection with the unusually warm stratosphere over Germany, during the last days of Jan. 1952 is probable. 100-mb. temperatures over Alert did not show any connection with geomagnetic disturbances from Nov. 1951-March 1952. Copy seen: DLC.

48862. WARREN, HARRY VERNEY, 1904—, and R. E. DELAVAULT. Biogeochemical prospecting in northern latitudes. (Royal Society of Canada. Transactions, 1955. Third ser., v. 49, sec. 4, p. 111–15, graphs, 3 tables.)

Many geochemical techniques are impractical in northern areas: water testing is not feasible during part of the year; soil sampling is difficult and unreliable in many places due to frozen ground and lack of residual soil. Preliminary results are presented from sampling and analyzing some relatively well known botanical species near and away from known mineralization. Birch (Betula papyrifera and B. glandulosa), Labrador tea (Ledum groenlandicum), spruce (Picea mariana and P. glauca), and willow (Salix sp.),

collected in Northwest Territories, Yukon, and Northern Quebec, were found capable of reporting anomalously high zine and copper contents in underlying rocks. *Copy seen:* DGS.

48863. WASHBURN, ALBERT LINCOLN, 1911— . Classification of patterned ground and review of suggested origins. (Geological Society of America. Bulletin, July 1956. v. 67, no. 7, p. 823—65, illus. on 7 plates, diagrs.) 197 refs.

"Patterned ground is a group term for the more or less symmetrical forms . . . that are characteristic of, but not necessarily confined to, mantle subject to intensive frost action." Patterned ground is broadly classified, in order of increasing gradient, into sorted and non-sorted varieties of circles, nets, polygons, steps, Each of these is defined, and stripes. described, and illustrated, with notes on occurrence. Origin of patterned ground has not been satisfactorily explained. Hypotheses based on the following dominant processes are reviewed and evaluated: expansion due to freezing; expansion due to absorption of water by colloids; weathering; contraction; convection; moisture-controlled changes in intergranular pressure; differential thawing and eluviation; vibration; artesian flow; rillwork (for stripes); solifluction in combination with one or more of the above processes (for stripes). The discussion supports the conclusion of the polygenetic origin of patterned ground. The descriptive classification adopted here eliminates ambiguities and confusion resulting from overlapping and synonymous terms in the literature. More information is needed before these forms can be fully understood.

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48864. WASHBURN, ALBERT LINCOLN, 1911- . Unusual patterned ground in Greenland. (Geological Society of America. Bulletin, June 1956. v. 67, no. 6, p. 807–810, 4 illus. on 2 plates) 17 refs.

Contains description of small well-developed sorted nets occurring on an ice-cored moraine of the Greenland ice-cap about 16 km. southeast of Thule, northwest Greenland (76°34′ N. 68°48′ W.). Author suggests that nets may be result of differential thawing and eluviation combined with upfreezing of stones and local differential heaving. Further study is recommended.

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48865. WASHBURN, HENRY BRAD-FORD, 1910- . Mapping McKinley's southeast approaches. (American alpine journal, 1956. v. 10, no. 1, issue 30, p. 47-50, 8 illus.)

Popular account of a Boston Museum of Science five-man survey expedition (led by the writer), Mar.—Apr. 1955, to the amphitheater of Ruth Glacier, southeast of Mt. McKinley, Alaska Range. Party obtained necessary ground control to complete survey network for a new large-scale map of the McKinley region. Several ascents were made, including first ascent of "Mt. Dickey" (9,550 ft.). Excellent photographs are included.

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WASHBURN, HENRY BRADFORD, 1910—, see also Browne, B. The conquest of Mt. McKinley. 1956. No. 44161.

48866. WASHBURN, RICHARD. Root maggots in Alaska. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub*. 1956, p. 149–50.)

Information is presented on earlier knowledge of maggots in Alaska; species of injurious root maggots; crops affected by them (onions, cabbage, cauliflower, broccoli, etc.); sources of maggots; their development, growth and propagation.

\*Copy seen: DGS.\*

48867. WASSERFALL, KARL FALCH, 1882– . Gjøa-ekspedisjonen og Roald Amundsens innsats som jordmagnetiker. (Naturen, July-Aug. 1928. Årg. 52, no. 7–8, p. 193–207, illus. tables. Short correction, p. 319.) Text in Norwegian. Title tr.: The  $Gj\phi a$  Expedition and Roald Amundsen's contributions as a geophysicist.

Brief explanation of the importance of the magnetic material of the  $Gj\phi a$  Expedition in the Canadian Arctic 1903–1906, on the occasion of its 25th anniversary. Some of the results are indicated. cf. No. 6035. Copy seen: DLC.

48868. WASSIF, KAMAL. Pseudorca crassidens Oven from Mediterranean shores of Egypt. (Journal of mammalogy Aug. 1956. v. 37, no. 3, p. 456.)

Description of a skull fragment from a false killer whale found on this coast near the town Baltim. This is the first record of this species for the Mediterranean shores of Egypt.

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48869. WATANABE, GEN-ICHI, and S. YOSHIDA. Climatic effect on urinary

output of neutral 17-ketosteroids. (Journal of applied physiology, Nov. 1956. v. 9, no. 3, p. 456–60, illus., tables.) 14 refs.

Account of monthly assays made over a period of 14 months. Maximum output of 17-ketosteroids was observed in January, minimum in July; no difference between men and women was observed. Seasonal changes in temperature are indicated as causative factors.

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WATASE, SETSUO, see Kakuwa, Z., and others. Report on whale marking . . . North Pacific . . . 1953. No. 45855.

48870. WATERHOUSE, ROBERT W. Structures for snow investigations on the Greenland ice cap. Wilmette, Ill., Apr. 1955. 38 p. illus., diagrs., tables. (U. S. Army. Corps of Engineers. Snow Ice and Permafrost Research Establish-

ment. SIPRE Report 27.)

Lightweight portable structures have been installed in excavations in snow for the purpose of procuring, over a long period of time, stress-and-strain behavior data of massive snow such as exists over an extensive area of Greenland. shoring-type structures and columntype structures will develop pressures from snow accumulation to be measured periodically with electrical strain-gagetype pressure cells. Supplementary structures exhibiting visible responses to snow accumulation and consolidation with time, including lightweight metal arches and a shelter composed of snowblock walls with a prefabricated metal roof structure, were also installed and observed. Initial observations include description of the excavation procedure and, briefly, load characteristics.

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48871. WATERMAN, ALAN TOWER, 1892– . The International Geophysical Year. (American scientist, Apr. 1956. v. 44, no. 2, p. 130–33.)

The IGY is sponsored by the International Council of Scientific Unions, and directed by a committee headed by Dr. Sydney Chapman. Participants (55 nations as of Nov. 1955) plan to study during July 1, 1957–Dec. 31, 1958: aurora and airglow, ionosphere, meteorology, solar activity, geomagnetism, glaciology, oceanography, seismology, gravity, and the upper atmosphere. Work of national groups is to be supplemented by regional groups in Arctic, Antarctic, and

Equatorial regions; also by four meridional chains of stations covering the lines  $70^{\circ}-80^{\circ}$  W.,  $10^{\circ}$  E.,  $110^{\circ}$  E.,  $140^{\circ}$  E. Results are to be disseminated from archive and data centers.

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48872. WATKINS, DAVID H., and others. The effect of somatotrophin on ventricular fibrillation of arterioclusive and hypothermic origin. (Journal of thoracic surgery, Nov. 1956. v. 32, no. 5, p. 583–90, tables.) 32 refs. Other authors: A. E. Prevedel, G. A. Munro, S. Rothman, and R. M. Hill.

Includes description of experiments with dogs made hypothermic to 26° ±3° C. In these animals premedication with somatotrophin prevented in a significant number of cases the ventricular fibrillation which regularly follows right ventriculotomy. The action of somatotrophin appears to be on a cellular metabolic level.

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48873. WATSON, ADAM. Ecological notes of the lemmings Lemmus trimucronatus and Dicrostonyx groenlandicus in Baffin Island. (Journal of animal ecology, Nov. 1956. v. 25, no. 2, p. 289–302, tables.) 38 refs.

The information presented was gathered on the expedition of 1953 led by P. D. Baird, which worked from May to September in Cumberland Peninsula. It includes numbers, movements, food, and grazing effect on vegetation; habitat preference in both species; variations in population density and relative number of the two forms; dimensions and weight; sex ratio; predators, disease, etc.

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48874. WATSON, GORDON W., and R. F. SCOTT. Aerial censusing of the Nelchina caribou herd. (North American Wildlife Conference. 21st, New Orleans. Transactions, 1956, p. 499–510, illus. table, map.) 10 refs.

An analysis and discussion of results from aerial censuses of this herd conducted during the winters 1948–1955. The ultimate census indicated the presence of 40,000 animals in the area against 5,000 in 1948. The sources of error are pointed out. A description of the area (approx. 10,000 sq. mi., about 125 miles northeast of Anchorage) and the herd is included. Use of aircraft for census is discussed. Copy seen: DLC.

48875. WATSON, J. R., Jr. Engineering and permafrost study in the Glenn-

allen area, Alaska: progress report. (Geological Society of America. Bulletin, Dec. 1956. v. 67, no. 12, pt. 2, p. 1810.)

Abstract of paper presented at the Seventh Alaskan Science Conference (AAAS), Juneau, Sept. 27–30, 1956. Installation of recording devices for the cooperative engineering Permafrost Studies in this area (62°07′ N. 145°33′ W.) is almost complete, and routine collection of field data is progressing. Preliminary thermal data have been applied to problems of spring break-up of highways and differential settling of apartment house at Glennallen. Subsurface data are being collected from 37 thermistor cables.

\*\*Copy seen: DGS.\*\*

48876. WATSON, JAMES WREFORD, 1915—. The land of Canada. (Canadian geographical journal, Apr. 1956. v. 52, no. 4, p. 136–65, 28 illus., 4 text maps.)

A summary of Canada's physical geography, dealing in turn with location, shape, and size; regional geology and topography; climatic, vegetation and soil zones. Discussion includes the arctic and subarctic regions. Many excellent photographs.

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48877. WATSON, W. Y. Two new species of Coccinellidae; Coleoptera. (Canadian entomologist, Jan. 1954. v. 86, no. 1, p. 45–47, 9 illus.)

Contains descriptions of Hippodamia parva and Coccinella fulgida n. spp. both collected at Cape Henrietta Maria on the northwestern corner of James Bay, Ontario, during the expedition of the Royal Ontario Museum of Zoology and Paleontology to this region in 1948. The latter species has been found also in Northwest Territories and Yukon Territory.

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WATTS, GERTRUDE, see Watts, N., and G. Watts. We went to Lapland. 1956. No. 48878.

**48878. WATTS, NOEL**, and **G. WATTS.** We went to Lapland. (Norseman, Jan.–Feb. 1956. **v.** 14, no. 1, p. 47–53, illus.)

Popular account of authors' visit to Lapp summer settlement in the mountains near Vassijaure, northern Sweden (68°24′ N. 18°11′ E.). Brief descriptions are given of Lapp customs, turf huts and tents, food, spring and fall migration with the reindeer.

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48879. WAUD, RUSSELL AMOS, 1895—. Response of microscopic circulation to dextran and polyvinylpyrrolidone following hemorrhage during hypothermia. (Federation proceedings, Mar. 1956. v. 16, no. 1, pt. 1, p. 496–97.)

Fall in blood pressure after withdrawal of blood was much greater in the cold (-30° C.) than at room temperature; also many capillaries became devoid of blood, the contour of venules changed and the distance between them increased. Reinfusion with blood reestablished capillary circulation but blood pressure rose very little; transfusion with the two substitutes caused circulatory deterioration and cell damage. *Copy seen:* DLC.

4880. WAXELL, SVEN LARSSON, 1701–1762. Den stora expeditionen; utdrag ur såväl mina egna som ur andra officerares journaler från den Kamjatka-expedition, som utgick fra St. Petersburg år 1733 . . . Utg. och med kommentar försedd av Juri Semjonow. Stockholm, Rabén & Sjögren, 1953. 238 p. illus, ports., maps (part fold.) Title tr.: The great expedition; summary of my own and other officers' diaires from the Kamchatka expedition which started from St. Petersburg in 1733. Published with comments furnished by füril Semenov.

Swedish translation by Ulf Tengbom, of the Danish version of Waxell's original German ms. on his participation in Vitus Bering's expedition (cf. Arctic Bibliography, No. 27279–27281). Semenov's commentary (p. 173–236) deals with previous activities in northeast Siberia and the Bering Sea area from the voyage of Dezhnev in 1648: Russian political conditions in regard to Bering; place of Waxell and significance of his book. The classic narratives, maps, etc., of the Kamchatka-Alaska expeditions are reviewed and results appraised.

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48881. WEALE, ROBERT ALEXAN-DER, 1922- . Observations on the direct effect of light on the irides of Rana temporaria and Xenopus leavis. (Journal of physiology, May 1956. v. 132, no. 2, p. 257-66, illus.) 18 refs.

Contains a description of the experimental arrangement used for measuring the direct effect of light on amphibian irides, followed by studies of sensitivity and reflectivity, migration of the pigment granules in the retinal epithelium, and

measurements with white light and sunlight. Copy seen: DNLM.

**4882.** *WEATHER.* Arctic sea-smoke. (Weather, Oct. 1956. v. 11, no. 10, p. 318, illus.)

Contains photograph and explanation of arctic sea-smoke or frost-smoke. This phenomenon depends on the overlying air being so cold, compared with the water surface, that evaporation occurs rapidly enough to saturate the air nearest the sea surface, before this air can be mixed by turbulence with drier air at a slightly higher level. It is believed that arctic sea-smoke does not form until the air is at least about 16° F. colder than the sea. The phenomenon is common in the polar regions in the early autumn.

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WEBB, E. N., see Eckenfelder, G. V., and others. Hamilton River survey . . . 1956. No. 44720.

WEBER, NEAL ALBERT, 1908-, see Christiansen, K. A. Notes . . . Alaskan Collembola . . . 1951. No. 44363.

4883. WEBER, WALTER M. Occurrence of the Aleutian tern and rustic bunting in the Aleutian Islands. (Condor, May 1956. v. 58, no. 3, p. 235.)

From observations made on Adak Island in summer 1951: it is established that the Aleutian tern (Sterna aleutica) does in fact breed in the Aleutians. A flock of five buntings (Emberiza rustica) was seen Oct. 22, the second published record of this Asiatic straggler in North America.

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4884. WEBSTER, R. L. The distribution of the North American species of *Phytonomus*; Coleoptera. (Entomological news, Feb. 1909. v. 20, no. 2, p. 80-82.)

Includes notes on P. quadricollis from Yukon Territory, and P. seriatus occurring on Kodiak Island, Alaska.

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4885. WEDOW, HELMUTH, 1917—Adaptation of portable survey meters for airborne reconnaissance with light planes in Alaska. Washington, D. C., Oct. 1951. 11 p. Mimeographed. (U. S. Geological Survey. Trace elements memorandum report 323.)

Meters adapted for airborne radiation reconnaissance were used in Alaska during summer 1951 incidentally to flying for other purposes. The meter was modified by attaching a large probe consisting of six 2- by 40-inch gamma tubes connected in parallel; its resultant weight was 25 Though not tested on highpounds. grade uranium deposits, the instrument distinguished small areas of granitic rocks containing 0.003 to 0.004 percent equivalent uranium from rocks of normal radioactivity, at distances of 25-500 ft. and at flying speeds of 40-100 mph. No radioactivity anomalies were detected; but sufficient data were accumulated to warrant airborne reconnaissance to supplement ground investigations.—From Author's abstract. Copy seen: DGS.

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4886. WEEDEN, ROBERT B. A field and laboratory study of the ecology, life history and behaviour of ptarmigan in Alaska. (Arctic, 1956. v. 9, no. 3, p. 212–13.)

Report on investigations of a 20 square mile area of Eagle Summit, 105 miles northeast of Fairbanks, with description of area and information on: number of birds, nests, and eggs, growth and behavior of brood, predation, etc. The study was aided by the Banting Fund through the Arctic Institute of North America.

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WEEMS, HOWARD VINCENT, 1922-, see Fluke, C. L., and H. V. Weems. The Myoleptini of the Americas. 1956. No. 44923.

WEGENER, KURT, 1878-, see Heuberger, J. C. Mesures de températures . . . l'ice-cap du Groenland. 1956. No. 45542.

4887. WEGMANN, C. EUGÈNE, 1896—
Geologische Gesichtspunkte zur Frage der Eiszeitüberdauerung von Pflanzen in Grönland. (Naturforschende Gesellschaft, Schaffhausen. Mitteilungen, 1941. Bd. 17, p. 97–115.) 18 refs. Text in German. Title tr.: Geological aspects of the problem of ice-age survival of plants in Greenland.

The problem of possible ice-free areas during the Pleistocene, is discussed, with consideration of crustal movements and their relation to glacial advances and retreats, and of the vegetation of Greenland during the Mesozoic and Tertiary periods. The botanist's viewpoint is introduced, and further study by plant geographers and ecologists, is suggested, also geophysical investigations to determine recent movements of the land.

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48888. WEHR, EVERETT ELMER, 1895- . Descriptions of three bird

nematodes, including a new genus and a new species. (Washington Academy of Sciences. Journal, Aug. 15, 1934. v. 24, no. 8, p. 341-47, 15 illus.) 9 refs.

Includes descriptions of Stegophorus stellae-polaris n. gen. & n. comb. obtained from Fulmarus glacialis, Thalassodroma pelagica and Uria l. lovia, locality: arctic region and British Isles. Recent collections were made at 73°20′ N. 17°25′ W. Copy seen: DLC.

WEHR, EVERETT ELMER, 1895—, see also Herman, C. M., and others. Causes of winter losses . . . Canada geese. 1955. No. 45531.

4889. WEISS, A. KURT. Tissue oxygen consumptions of rats adapted to cold. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 197.)

Some tissues of cold-exposed rats showed increased rates of  $O_2$ -consumption; others, like brain-cortex, lung, spleen, thymus and testis remained unaffected. This response to cold-stress resembles the reaction of thyroidectomized rats to massive doses of thyroxine, and may be partially induced by increased thyroid activity.

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WEISS, M., see Nahas, G. G., and others. Étude du "débit azygos" . . . clampage des veines caves . . . hypothermie . . . 1956. No. 46929.

WEITZEL, WILLIAM K., see Fedor, E. J., and others. Effect of hypothermia . . . induced bacteremia. 1956. No. 44863.

WEITZEL, WILLIAM K., see also Fisher, B., and others. Some physiologic effects . . . hypothermia . . . liver. 1956. No. 44906.

WELANDER, ARTHUR DONOVAN, 1908-, see Schultz, L. P., and A. D. Welander. A review . . . cods . . . northeastern Pacific . . . 1935. No. 47846.

48890. WELANDER, ERIK. Kartverkets flygfotograferingsverksamhet. (Skogen, Feb. 15, 1956. årg. 43, no. 4, p. 80-81, map.) Text in Swedish. *Title tr.:* The mapping division's air photographing activity.

Aerial photography in Sweden since 1945 is reviewed, coverage tabulated, and plotted on text map. In the Arctic, nearly half the area was photographed in 1954-55; most of the unphotographed area is in the northern mountain-upland region. In addition to mapping and forestry, economic, military, and other aspects of the program are discussed.

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48891. WELLS, ROLLIEN R., and R. L. THORNE. Concentration of Klukwan, Alaska, magnetite ore. Washington, D. C., June 1953. 15 p. text map, diagr., graph, 19 tables. (U. S. Bureau of Mines. Report of investigations 4984.) Ref.

Summarizes results of laboratory beneficiation tests on iron ores from Klukwan (59°24′ N. 135°54′ W.) near Haines, Southeast Alaska. Iron is present as a fine-grained magnetite associated with a pyroxenite-type basic rock. Average magnetic iron content of the magnetite lenses is about 45–50 percent. Physical and chemical characteristics of six samples are described; also methods of concentration. Magnetic separation procedures produced concentrates assaying more than 60 percent Fe and two to four percent TiO<sub>2</sub>.

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**48892. WELLS, ROLLIEN R.** Current metallurgical problems in Alaska. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub.* 1956, p. 38–41.)

The major factor preventing an expanding mineral industry in Alaska is the preponderance of low grade ores which by current standards, it is not economically feasible to mine. Possible means are described for concentrating the iron ores available in various parts of Alaska and for recovering such by-products as nickel, cobalt, and titanium.

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48893. WELLS, ROLLIEN R. Laboratory concentration of various Alaska copper ores. Washington, D. C., June 1956. 9 p. text map, 9 tables. (U. S. Bureau of Mines. Report of investigations 5245.)

Summarizes results of preliminary mineral-dressing studies on five samples of copper-bearing ores form four deposits: Moth Bay mine, Revillagigedo Island southeast of Ketchikan, Threeman mine, Port Fidalgo area, Prince William Sound; Golden Zone mine near Colorado Station northwest of Anchorage (two samples); Kathleen-Margaret prospect near Paxton on Maclaren River (62°50′ N. 147°08′ W.). Samples ranged from 0.24 to 1.65 percent Cu. In the tests, recoveries of 67 to over 95 percent total copper were

made from concentrates that assayed between 13.4 and 36.7 Cu. Methods of concentration are described and data given in tables. *Copy seen:* DGS.

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WELLS, ROLLIEN R., see also Thorne, R. L., and R. R. Wells. Studies . . . Snettisham magnetite . . . 1956. No. 48385.

48894. WELLS, VIRGINIA L. Photographing northern wild flowers. (National geographic magazine, June 1956, v. 109, no. 6, p. 809–823, 26 illus. (20 col.))

Popular account of trips to Katmai National Monument and the Anchorage region, with excellent photographs of wildflowers. Copy seen: DGS.

48895. WENDELBO, PER. Anthropochore Bromus-arter i Norge. (Blyttia, 1956. bd. 14, no. 1, p. 1–14, 2 illus., text map.) 25 refs. Text in Norwegian. Summary in English. Title tr: Anthropochorous species of Bromus in Norway.

Contains a key to the species of this grass and an annotated list of 20; two, B. ramosus and B. benekenii, are indigenous, possibly also B. hordaceus var. thominii. Two species are recorded in northern Norway: B. segalims (Tromsø) and B. hordaceus (Tromsø and Finmark).

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48896. WENK, EDUARD, 1907—. Alpines und ostgrönländisch-kaledonisches Kristallin, ein tektonisch-petrogenetischer Vergleich. (Naturforschende Gesellschaft in Basel. Verhandlungen, 1956. Bd. 67, Nr. 2, p. 75–102, 12 illus. on 6 plates, text map, cross-sections.) 44 refs. Text in German. Titte tr: Alpine and East Greenland-Caledonian crystalline complex, a structural-petrogenetic comparison.

An analysis of the deepest observed crystalline rocks of the geologically young Swiss Alps and the old Caledonian mountains of East Greenland. The overall structure, the transition zone between metamorphosed sediments and granitoid crystalline rocks, and structure of the crystalline zones of both mountain chains are considered, with conclusions on the mountain-building processes in each case. Author was member of the Danish East Greenland Expedition under Lauge Koch, 1934, 1951–1954.

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48897. WENNER, CARL GÖSTA. Fakta om Sveriges lerförekomster. (Geologiska föreningen, Stockholm. Förhandlingar, 1949. bd. 71, häfte 3, no. 458, p. 435-41, illus., diagr., 3 text maps.) Text in Swedish. Summary in English. Title tr: Facts concerning the occurrence

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of clay in Sweden. Above the highest glacial marine limit, clay is found only occasionally in Sweden. If it is varved, it was deposited in glacial lakes, if unvarved, in other lakes. Relation between the glacial marine limit and the extent of clay is shown (map). Along the coasts, glacial clay is of greatest importance except where large streams enter, as along the Norrland coast. Variations in thickness of the clay, generally not great in the North, result in part from the length of time of deposition. Disturbed and undisturbed clays differ in strength; they can be distinguished and the strength related to salt content of water bodies in which they were laid down. Marine, glacial lake and other lake clays were investigated. In Norrland waters, salt content has been low, clay has less tendency to slide than elsewhere in Sweden. Clay from water of greater salt content is more prone to landslides, an important factor in construction. Copy seen: DGS.

48898. WENNER, CARL GÖSTA. Investigation into the possibilities of distinguishing the pollen of various species of *Betula* in fossil material. (Geologiska föreningen, Stockholm. Förhandlingar, 1953. bd. 75, häfte 3, no. 474, p. 367–80, 8 diagrs., table.) 7 refs.

Size measurements of pollen grains are questioned as a basis for geologic results. Alterations in size may result from accidental factors in measurements, differences in fossilization, or in the soils containing the pollen. It is suggested that pollen from more than one kind of tree be studied together for comparison. Such a study is described and the mathematical results are presented in detail. Materials studied include pollen from Kalixfors near Kiruna, northern Sweden.

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48899. WENNER, CARL GÖSTA. Synpunkter på de svenska järnvägarnas försörjning med ballastgrus och förslag till en ny ballasttyp. Stockholm, 1951. 8 p. 3 text maps, 3 diagrs. (Stockholm, Högskolan. Geologiska institutet. Meddelande, no. 97.) Reprinted from Järnvägsteknik, 1951, nr. 7–8. Text in

Swedish. *Title tr.:* Viewpoints on the supply of gravel for Swedish railway ballast and a proposal for a new ballast

Rationalization of supply should provide better gravel for Swedish railways at lower cost. Good gravel is generally found as layers in less useful deposits. Sorting is necessary to avoid associated sand and clay materials. Size of material, nature of parent rock, and resistance to weathering are discussed. A natural gravel and crushed rock mixture is suggested for ballast. Locations of gravel pits in operation in 1948 and those suggested for use in the long range program (cf. maps) include some sites above the Arctic Circle.

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48900. WENTHOLT, A. W. De Noordelijke Zeeroute van de Sowjet-Unie. (Nederlandsch aardrijkskundig genootschap, Amsterdam. Tijdschrift, Jan. 1956. Tweede reeks, deel 73, no. 1, p. 90–94, text map.) 2 refs. Text in Dutch. *Title tr.:* The Northern Sea Route of the Soviet Union.

Brief survey (based on No. 38577 and 41234) of the exploration and development of the Route, its administrative organization (Glavsevmorput') and personnel, need for meteorological and hydrographic stations along it, use during World War II, resources of its hinterland, feasibility of its continued use.

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48901. WERENSKIOLD, WERNER, 1883— . Dengang jeg vekket Nansen. (Polarboken, 1956, p. 151–52.) Text in Norwegian. *Title tr.:* The time I wakened Nansen.

Recalls an episode in 1900, when the Duke of the Abruzzi returned via Norway from the "farthest north" of the time, 86°34′ N. and met Nansen in Oslo.

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van der WERFF ten BOSCH, J. J., see Donovan, B. T., and J. J. van der Werff ten Bosch. The cervical sympathetic . . light-induced oestrus. 1956. No. 44649.

48902. WERNER, A. YVONNE, and others. Spontaneous rewarming of the hypothermic curarized dog. (Science, Dec. 7, 1956. v. 124, no. 3232, p. 1145–46, tables.) 15 refs. Other authors: D. Dawson and E. Hardenbergh.

Account of experiments with deeply curarized dogs, placed in ice water till

rectal temperature reached 29° C., then removed, dried and left, wrapped in a blanket, at room temperature (24° C.). All animals subsequently showed a drop of body temperature of ca. 4° C. before spontaneous rewarming began. Increased metabolism of visceral tissue and of the liver are assumed to contribute to Copy seen: DLC. rewarming.

48903. WEST, ROBERT. In the Chugach Range, Alaska. (American alpine journal, 1956. v. 10, no. 1, issue

30, p. 40-46, 3 illus.) 3 refs.

Popular account of an eight-man mountaineering party, led by L. Nielsen, in the upper Columbia Glacier region, Chugach Range (61°20' N. 146°30' W.), late June-early July 1955. An attempt was made on Mt. Witherspoon (13,000 ft.), first ascents were made of its South Peak, Mt. Sharkstooth, Mt. Fafnir, and Mt. Powdertop; also other ascents in the area. Copy seen: DGS.

48904. WESTBLAD, EINAR, 1891- . Marine "alloeocoels" (Turbellaria) from North Atlantic and Mediterranean coasts, II; a new fresh-water Plagiostomum species. (Arkiv för zoologi, Aug. 8, 1956. ser II, bd. 9, no. 5, p. 131-74, 24 illus., 4 plates.) 48 refs.

Contains descriptions of 16 species, five new; an anatomical summary, taxonomic survey and diagnoses. At least seven species are registered in Greenland and northern Norwegian waters.

part of this study, infra.

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48905. WESTBLAD, EINAR, 1891-Some new "alloeocoels" (Turbellaria) from the Scandinavian west coast. Bergen, 1952. 27 p. 7 illus. (Bergen, Norway. Universitetet. Årbok, 1952. Naturvitenskapelig rekke, no. 7; also issued as Publications from the Biological Station, 5.) 11 refs.

Contains descriptions of five new genera and seven new species of this group. Globuliphora rufifrons n. gen. et sp. is described from Tromsø waters. continuation of this paper see No. 48904.

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48906. WESTCOTT, OLIVER S. The distribution of some N. American Syrphidae. (Entomological news, Oct. 1897. v. 8, no. 8, p. 190-91.)

Contains a simple list with localities of 56 species of syrphid flies collected by the author in various regions; Syrphus umbellatarum and Eristalis occidentalis from Fort Wrangell, Alaska, are included. Copy seen: DA.

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48907. WESTERN CONSTRUCTION. Alaska's frost and food problems. (Western construction, Feb. 1956. v. 31, no. 2, p. 24-26, illus.)

Contains description of special construction techniques used at Bethel, including maintenance, supply, and personnel problems. Timber piles 30 ft. high with refrigeration piping are installed in 18-in. holes drilled into permafrost; sandy-silt slurry is pumped around the piles as backfill and is artificially frozen. Control boards will be connected to thermocouples to regulate the freezing process and to maintain a check on foundation conditions. The drilling tool is a special auger equipped with an "Alaskaug" drilling head, consisting of four cutting surfaces with square carbide The head can be shifted into inserts. an upside-down position to provide more cutting surfaces. Copy seen: DLC.

48908. WESTERN CONSTRUCTION. Alaska's skyscraper. (Western construction, Sept. 1956. v. 31, no. 9, p. 28-29, illus.)

Construction of a 14-story apartment building at the port of Whittier during 1954-1956, is described, particularly steel and concrete work. The locality (60°45' N. 148°45' W.), 62 mi. southeast of Anchorage, has 108 in. rainfall and 208 in. snow yearly, also winds of more than 100 mph. Work in severe weather was facilitated by a specially designed false roof which was raised on steel trusses designed and fabricated to span over the entire structure as it built upwards. A drop canvas skirt was hung around the perimeter of the temporary roof. building was completed under a \$4,029,-620 contract with the United States Army Corps of Engineers. A sevenstory structure with 538 rooms, completed in 1953 at Whittier is also noted. The two buildings provide quarters, recreational facilities, etc., for military personnel. Copy seen: DLC.

48909. WESTERN CONSTRUCTION. Alcango pipeline, part 2 of 2; constructing 620 miles of trouble. (Western con-

struction, Mar. 1955. v. 30, no. 3, p. 29+, illus.) Sequel to No. 43282 of Arctic Bibliography.

Organization and equipment of this operation to build an 8-in. oil line from Haines to Fairbanks are described. The work, by Williams Bros., of Tulsa, Okla, was initiated in Dec. 1953. A trenching machine was modified to work in the permafrost but bucket point had to be replaced after each shift. Radiographic inspection disclosed many failures in the welding. The pipeline was completed Nov. 15, 1954, except for one crossing.

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48910. WESTERN CONSTRUCTION. What's the Alaska road situation? (Western construction, Mar. 1955. v. 30, no. 3, p. 57-58, 60, map.)

Major problems faced by the Alaska Road Commission in the construction and maintenance of Alaskan highways are discussed. Excavation in frozen ground, protection of bridges from ice, and road surfacing problems are included. The location of paved, gravelled, and planned highways in Alaska is mapped; construction to date has been confined to the Pacific mountain and central plateau regions.

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48911. WESTERN MINER. All-weather dredging operation. (Western miner, Mar. 1956. v. 29 no. 3, p. 40, 4 illus.)

Dredge is reclaiming mill tailings dumped into Great Bear Lake prior to 1952 at Port Radium for Eldorado Mining and Refining Ltd. In winter, area around dredge is kept ice-free by an encircling pipe system, from which warm water (mine discharge, acid plant cooling water, leach plant overflow) is discharged under pressure through 43 jets. Dredge maintains steady rate of operation throughout the coldest weather.

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48912. WESTERN MINER. Development in Yukon and the Northwest Territories. (Western miner, Apr. 1956. v. 29, no. 4, p. 52-56, table.)

Contains report with statistics on gold, silver, pitchblende, crude petroleum, natural gas, tantalum, columbium, lead, zinc, coal, and cadmium production for 1955 compared with 1954; also development work at gold mines near Yellow-knife, exploration for uranium, lithium, copper, iron, nickel, lead-zinc, asbestos. In Northwest Territories, 8,890 mineral claims were staked during 1955, primarily in the Marian River uranium area and between Great Slave Lake and the Saskatchewan border; in Yukon, 3,038 claims, particularly on copper showings

in the Upper Liard River area and asbestos discovery north of Dawson.

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**48913.** WESTERN MINER. Mackeno resumes milling. (Western miner, Aug. 1956. v. 29, no. 8, p. 64-66, illus.)

Milling at Mackeno Mines Ltd. silver-lead-zinc operation, Mayo region, Yukon, was resumed July 3, 1956, at rate of 125 tons a day. Ore reserves, approx. 90 percent of which are ready for mining or milling, total 37,774 tons, averaging an estimated 41.2 oz. silver per ton, 9.2 percent lead and 11.7 percent zinc. Plans call for at least one year's milling. Surface exploration is also planned.

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48914. WESTERN MINER. New arctic survey ship. (Western miner, Sept. 1956. v. 29, no. 9, p. 45, illus.)

Contains description of the Baffin, flagship of the Canadian Hydrographic Service, launched June 18, 1956. Vessel has over-all length of 285 ft., displacement 3,700 tons, a hull strengthened for heavy ice, and a cruising range of 14,000 miles without refueling. Complement of 102, includes 12 hydrographers and five other scientists. Survey equipment and laboratories are briefly described. Vessel is equipped with hangar and landing deck for two helicopters. Copy seen: DGS.

**48915. WESTERN MINER.** New base metal find for B. C. (Western miner, Mar. 1956. v. 29, no. 3, p. 74, 76.)

Includes brief description of exploration by Tarbell Mines Ltd. in Mackenzie District. Geologic mapping in the Marian River uranium area (63°04′ N. 116°19′ W.) outlined two radioactive zones, one producing some high grade assays. Notes on structure are given. Diamond drilling was started on a gold showing about eight mi. north of Yellow-knife, Great Slave Lake. Exploration at company's gold property in the Snare River area (64°00′–10′ N. 115°19′–27′ W.) outlined 50,840 tons of ore. No development has taken place.

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48916. WESTERN MINER. A photo visit to United Keno Hill Mines. (Western miner, May 1956. v. 29, no. 5, p. 40-41, 7 illus., 2 ports.)

Winter photographs from Elsa and Calumet, Yukon Territory (63°55′ N. 135°29′ W.): mine buildings and homes, mill interior, one of the heavy paper

fences with slab lumber supports erected along the roads to combat icings.

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48917. WESTERN MINER. United Keno Hill profits exceed \$1½ million. (Western miner, Jan. 1956, v. 29, no. 1, p. 61.)

During fiscal year Oct. 1, 1954–Sept. 30, 1955, United Keno Hill Mines Ltd. of Yukon Territory produced 18,554 tons lead concentrate and 19,775 tons zinc concentrate containing 5,670,137 oz. silver, 26,350,198 lb. lead, 24,035,999 lb. zinc, 302,297 lb. cadmium. Costs and returns are itemized. Ore reserves at the various mines are estimated and some development work is noted. Total holdings in the Keno Hill-Galena Hill area (63°53′-55′ N. 135°02′-27′ W.) are 459 mineral and 2 placer claims. Exploration and development of the Hector, Calumet, and Elsa mines on Galena Hill and exploration on Keno Hill will continue.

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48918. WESTERN MINER. A visit to Beaverlodge and to Giant Yellowknife. (Western miner, Feb. 1956. v. 29, no. 2, p. 34–35, 10 illus., 4 ports.)

Photographs of townsites and mine buildings in the Beaverlodge Lake uranium mining area, northern Sask., and of the Giant Yellowknife Mine, Great Slave Lake. **Copy seen:** DGS.

48919. WESTERN MINER. Yukon Consolidated. (Western miner, May 1956. v. 29, no. 5, p. 84.)

During 1955, Yukon Consolidated Gold Corp. Ltd. dredged 5,319,022 cu. yds. of gravel to produce gold valued at \$1,524,058. Seven dredges operated throughout the period. Stripped reserves as of Dec. 31, 1955 are 13,344,617 cu. yds., providing an average of 6½ seasons for six dredges. Proved gravel reserves in addition to the above were estimated at 43,633,125 cu. yds., with values of \$18,072,291.

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WESTFALL, BERTIS ALFRED, 1907—, see Meyer, D. K., and others. Water and electrolyte . . . anoxia, cold and inanition. 1956. No. 46734.

**48920. WESTFALL, HERBERT C.** Research and design of a single main recirculating system. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub.* 1956, p. 48–53.)

The economics and construction principles of the four types of water systems

considered for Fairbanks are described briefly, and steps taken in designing the single main recirculating system adopted are described in detail. The system provides sufficient flow velocities to return the water to the source of heat before sufficient heat is lost to cause freezing. This type of system is believed capable of providing an adequate, trouble-free water supply to arctic communities.

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WESTFALL, MINTER JACKSON, 1916, see Needham, J. G., and M. J. Westfall. A manual . . . dragonflies of North America. 1955. No. 46969.

48921. WESTIN, B., and others. Na<sup>24</sup> clearance in hypo- and hyperthermic rats. (Acta chirurgica scandinavica, Feb. 1956. v. 110, fasc. 4, p. 316-18, illus.) 5 refs. Other authors: A. Parentela, D. Ziliotto and E. Odeblad.

At lowered body temperature, a depression of clearance of subcutaneously injected radiosodium was observed: at elevated temperatures both high and low clearance were found.

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48922. WESTIN, B., and others. On the subcutaneous and intrahepatic clearance of radiobromide in normo- and hypothermic rats. (Acta chirurgica scandinavica, Dec. 1956. v. 112, fasc. 1, p. 28-31, illus.) 9 refs. Other authors: A. Parentela, D. Ziliotto and E. Odeblad.

Hypothermic rats showed considerable depression in clearing both subcutaneous and intrahepatic  $Br^{sg}$  as compared with normothermic animals.  $O_2$  inhalation could not normalize the depression caused by hypothermia.

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48923. WESTLUND, C. Use of hot compressed air at Kiruna. (Canadian mining journal, Jan. 1956. v. 77, no. 1,

p. 51-52, illus.)

At Kiruna iron mines in northern Sweden (67°51′ N. 20°13′ E.), open-cut mining is no longer economical, and a gradual change to underground caving methods is in progress. Annual production of 12 million tons of ore is planned. The length of the ore-body and the low winter temperatures which freeze pipelines create technical problems in supply of compressed air to the workings. To overcome these, a decentralized hot compressed air supply system will be provided. Its operation, advantages, and disadvan-

tages are discussed; increased comfort for miners is noted in workings where tools are fed with the hot air.

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WESTPHAL, WOLFGANG, see Vogel, G., and others. Zur Wirkung von Stoffwechselinhibitoren . . . 1956. No. 48780.

WESTPHALL, POVL, see Denmark. Udenrigsministeriet. Greenland. 1956. No. 44601.

48924. WESTRING, N. Förteckning öfver de till närvarande tid kände, i Sverige förekommande spindelarter, utgörande ett antal af 253, deraf 132 äronya för svenska faunan. (Göteborgs kungl. vetenskaps- och vitterhets-samhälle. Handlingar, 1851. Ny tidsföljd, häft. 2, p. 25-62.) Text in Swedish. Title tr.: A list of the known spiders found in Sweden, 253 in number, of which 132 are new to Swedish fauna.

Systematic account of Swedish spiders as known in 1850, six families in all are represented; synonyms, location of specimens, and some descriptive notes are included. Several (15 species) were collected in Lapland. *Copy seen:* DLC.

48925. WETZEL, RALPH M. Speciation and dispersal of the southern bog lemming Synaptomys cooperi Baird. (Journal of mammalogy, Feb. 1955. v. 36, no. 1, p. 1-20, illus. map.) 34 refs.

A study based on examination of 686 specimens, skeletal measurements, etc. Three supraspecific groups were established, the *cooperi* group reaching into the arctic region. Dispersal centers and direction following the last glacial retreat, relation to the dispersal of the northern bog lemming, etc., are reconstructed and discussed.

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48926. WEXELSEN, H. Forsøk med utenlandsk rødkløver og alsikekløver. (Norway. Rådet for jordbrukforsøk. Melding, 1954. nr. 5, p. 199–217, 21 tables.) Also pub. in: Forskning og forsøk i landbruket, 1954. bd. 5, hefte 3, p. 199–217, 21 tables. Text in Norwegian. Summary in English. Title tr.: Experiments with foreign red clover and alsike clover.

Clover seed imported from Canada and Sweden was planted at several experimental farms in Norway, including two in the far North. Sown in mixtures with timothy, and with a Norwegian strain for comparison, yields to the third harvest year are compared. Copy seen: DA.

48927. WEXLER, ARNOLD. The Logan Mountains, Northwest Territories. (American alpine journal, 1956. v. 10, no. 1, issue 30, p. 81–89, 5 illus., sketch map.)

Popular account of mountaineering in the region 62°05′ N. 127°35′ W., west of Brintnell Lake, near the Yukon-Mackenzie District boundary. The five-man party (including the writer) made twenty ascents during July 1955.

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48928. WEXLER, BERNARD CARL, 1923—, and E. W. TRYCZYŃSKI. Cartilaginous deposits induced by freezing resolved by a bacterial polysaccharide (Piromen). (Journal of laboratory and clinical medicine, May 1956. v. 47, no. 5, p. 706–714, illus.) 30 refs.

Account of experiments with rabbits' ears frozen and thawed rapidly. Animals given Piromen showed, after a month, well vascularized, afibrotic ears, fully restored hair growth, and no pathological changes after three months of observations. Of the untreated controls about one-third retained their ears after a month and these remained contracted, fibrotic, hairless and poorly vascularized. Such ears, given the drug after a fourmonth rest period, showed a restored vascular pattern, hair regrowth and, microsopically, resorption of calcified plaques. Copy seen: DNLM.

48929. WEYER, EDWARD MOFFAT, 1904 - Daylight and darkness in high latitudes. [Washington, D. C.] Rev. 1956. ii, 22 p. 10 illus. (In: U. S. Office of Naval Operations. The dynamic North, v. 1, no. 10.)

The occurrence and effects of sunlight and moonlight in the Arctic are discussed. A chart is presented which can be used to determine the direction in which the sun rises or sets on any day at any latitude from 0°-75° N. Other charts to determine the hours of sunlight and twilight are offered. Moonlight and the northern lights contribute significantly to illumination during the winter night. The effect of atmospheric refraction, moon light and hunting, water sky, land sky, sun dogs, and arctic hysteria, light effects on agriculture, etc., are discussed.

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WEYER, EDWARD MOFFAT, 1904- , see also Harrington, R., and E. Weyer. Walrus hunt. 1956. No. 45455.

WEYER, EDWARD MOFFAT, 1904see also Sanders, I. T. Societies around the world. 1956. No. 47782.

48930. WEZLER, K. Der Mensch in Hitze und Kälte. (Kältetechnik 1954, Sonderheft 1, p. 2–11, illus.) 37 refs. Text in German. *Title tr.:* Man during cold and heat.

Following an introduction on the effects of weather and climate upon man, and the methods of study of these problems, the author deals with the process of cooling, physical thermoregulation, chemical thermoregulation and coordination of both, hypothermia and cold injury, effect of wind. The final section deals with Copy seen: DNLM. heat.

WHEATON, ROBERT R., see Mitchell, S. Q., and others. Dose-response . . . hypothermia. 1956. No. 46789.

48931. WHEELER, F. H. Air transportation for the Canadian mineral industry. (Canadian mining and metallurgical bulletin, June 1956. v. 49, no.

530, p. 431-34.)

Includes brief descriptions of several northern airlifts by civil enterprise. Eldorado Aviation, in support of uranium mining operations at Great Bear Lake and Beaverlodge, has flown 28,000 tons of freight and passengers during the 1945-1955 period, including emergency work at Port Radium after the fire of Nov. 9, 1951. The plant was rebuilt by May 1952. During 1948-1955, Hollinger-Ungava Transport flew 189,000 passengers and over 200 million pounds of cargo (passengers and freight) to the Quebec-Labrador iron mines at Knob Lake. Types of aircraft used are noted.

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48932. WHEELER, JOHN OLIVER. Evolution and history of the Whitehorse trough as illustrated by the geology of the Whitehorse map area, Yukon. vi, 154 p. illus., maps, incl. 1 fold. col. Ph. D. thesis, Columbia University, 1956. Microfilm pub. no. 16,828, University Microfilms, Ann Arbor, Mich.

This trough, which received sediments from late Triassic to early Cretaceous, extended southeast from Carmacks (62°06' N. 136°19' W.), Yukon, into northwest British Columbia. Most of the Whitehorse map area is underlain by Mesozoic rocks deformed into northwesttrending folds. Gently deformed and flat-lying mid-Cretaceous and Tertiary volcanic rocks overlie the folded and faulted Mesozoic rocks with angular unconformity. In late Triassic, the Whitehorse trough lay east of a volcanic arc, probably extending along the axis of the Coast Mountains. In early Jurassic, parts of this arc were spasmodically uplifted and coarse sediments poured into the trough on the side facing the craton. Granitic rocks were brought into contact with the volcanic rocks just prior to or during this uplift. The sediments in the trough may have overlapped the earlier Jurassic sediments along the margins, and probably were derived from quartzand chert-rich source areas farther from the axis of the trough than earlier in the Jurassic. The rate of uplift of source areas and the rate of subsidence of the trough appear to have decreased by early Cretaceous. The trough was then deformed in mid-Cretaceous.-From Dissertation abstracts 1956, v. 16, p. 1243-44. Abstract also pub. in Canadian mining journal, Dec. 1956, v. 77, no. 12, p. 93.

Copy seen: DLC (microfilm). WHEELER, JOHN OLIVER.

The Kaskawulsh area, St. Elias Mountains, Yukon Territory. (Canadian alpine journal, 1956. v. 39, p. 109-111, sketch

Ref. map.)

Contains description of mapping activities for the Geological Survey of Canada, summers 1953 and 1954, in the area 60°30′-61° N. 138°-139° W., within the Kluane Game Sanctuary. Bedrock consists of late Paleozoic folded and faulted sedimentary and volcanic rocks, locally intruded and metamorphosed by Cretaceous or Tertiary granitic bodies, and overlain in places by flatlying Tertiary volcanics. Mapping required considerable mountain travel, ascent of several peaks, and glacier work. Aerial supply of the parties is described.

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48934. WHERRY, EDGAR THEO-DORE, 1885- . Geographic relations in the genus Phlox. (Bartonia, 1938-39, pub. Jan. 1940. no. 20, p. 13-14, text map.)

Includes distributional data on P. sibirica, the only species which crossed Bering Strait and spread into Asia; it is most closely related to the Columbia Plateau P. douglasii, while P. richardsoni (arctic coast region) is a little more than a variety of the High Plain P. hoodi. The home of the genus Phlox in pre-glacial time lay in the southwest corner of Keewatin Land.

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48935. WHETSTONE, GEORGE W. General chemical character of surface waters of Alaska. (*In:* Alaskan Science Conference . . . 1952. Proceedings, *pub.* 1954, p. 172–75.)

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Differences in concentration of dissolved solids and chemical composition in small to medium-sized streams in Alaska are attributed to differences in geology, topography, and precipitation of their drainage basins. These streams show wide variation, and large streams a remarkable uniformity (tables available but not reproduced); analytical data from Southeast Alaska, Copper River Kenai Peninsula, and Yukon River basin are discussed. Rivers in coastal Alaska are dilute and soft; those in the interior contain more dissolved solids. Physical factors contribute to a lower rate of denudation than in areas of more temperate climate.

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48936. WHITE, ALBERT EASTON and C. A. SIEBERT. Literature survey on the low-temperature properties of metals. Ann Arbor, Mich., J. W. Edwards, 1947. vi, 558 p. tables. 50 refs.

Contains tabulated data on the low-temperature properties of metals. The data are grouped into ferrous and non-ferrous alloys, and each major group is divided into subgroups, according to alloy types. A general summary of physical properties at low temperatures is included.

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**48937. WHITE, C. E.** Canada's North. (Western miner, Aug. 1956. v. 29, no. 8, p. 33-35, port.)

A brief presented to the Royal Commission on Canada's Economic Prospects, containing general description of conditions in the Arctic and sub-Arctic; climate, transport, communications, social services; natural resources, with list of large mining developments and the companies concerned; value of northern mining industry to Canada; comparison of mining in the North with operations in southern Canada; recommendations for future development of the North. A permanent committee on northern affairs is suggested, to advise the govern-

ment on development of Northwest Territories and Yukon.

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48938. WHITE, DAVID, 1862–1935. Geological factors affecting and possibly controlling Pleistocene ice sheet development in North America. (Washington Academy of Sciences. Journal, Feb. 4, 1926. v. 16, no. 3, p. 69–72.)

Abstract of discussion on physiographic and continental changes following middle Tertiary and Pliocene times. Movements of the Pleistocene ice sheet in North America were determined mainly by terrestrial factors, such as changes of level of the land, reduction of the epicontinental sea, expansion of the continental surfaces, changes in ocean currents, air currents, rainfall, etc. astronomical phenomena, such as variation in solar radiation, may cause changes in earth climate, in ocean and air currents, but Pleistocene glaciation may be explained by terrestrial, rather than astronomical changes.

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48939. WHITE, H. B. Cross suspension system Kemano-Kitimat transmission line. (Engineering journal, July 1956. v. 39, no. 7, p. 901–911, 926, illus., diagrs., map, table.) 2 refs.

A comprehensive description is given of this new type of suspension adopted for permanent relocation of part of the line destroyed by an avalanche in 1955. Three towers were destroyed in the Kildala Pass section of the line feeding an aluminum smelter at Kitimat, British Columbia. The system utilizes two steel wire ropes strung across the narrow valley from which the transmission lines are suspended. Profiles, schematics, illustrations, and characteristic data of the construction are included.

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WHITE, JAMES R., see Mentze, E. Havets Danmark . . . 1952. No. 46713.

WHITE, ROBERT M., see Starr, V. P., and R. M. White. Direct . . . hemispheric poleward flux of water vapor. 1955. No. 48173.

48940. WHITE, SIDNEY EDWARD, 1916outlet glaciers, northwest Greenland, 1953. København, C. A. Reitzel, 1956. 31 p. 7 illus., 5 text maps, 2 graphs, 3 tables. (Meddelelser om Grønland. bd. 137, nr. 8.) 15 refs.

In summer 1953, the author and others (under leadership of R. P. Goldthwaite) investigated Nordre and Søndre Tvillinggletscher (approx. 76°55' N. 67° W.), east of Wolstenholme Fjord. Stakes driven into both glaciers in July 1953 were used for measurements of melting and glacier movement in 1953 and in 1954 (by Goldthwaite). Discharge measurements were made on the glaciers and drainage area to the north. Two periods of maximum melting occurred in 1953, one in late June-early July due to solar radiation, the other in late July-early Aug. as result of warm winds and rain. Nordre Tvillinggletscher, which moved an estimated 15.7 m. in 1953 (16.7 m. in 1954) is relatively free of crevasses. Søndre Tvillinggletscher, which moved 32.5 m. in 1953 (30.2 m. in 1954) has numerous crevassed areas. A sequence of moraines indicates overall retreat of the inland ice margin with successive shorter advances during the past thousand years. Studies of glacial deposits, former lake levels, varyes, and botanical evidence determined eight stages of advance and retreat. Seven new, approved geographic names in the region are listed.

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48941. WHITE, SIDNEY EDWARD, 1916—. Glaciology of Twin outlet glaciers. (In: U. S. Army. Transportation Corps. Final report, Operation Ice Cap 1953, pub. 1954, p. 73–91, illus.,

diagrs., table.)

"The maximum melting on North Twin Glacier and South Twin Glacier (northwest Greenland) occurred in early July, and again in late July to early Aug. The equivalent of 24.5 in. of water (an estimated average) was lost from these glacier surfaces between July 2 or 4 and Aug. 29. North Twin Glacier moves an estimated 52 ft./yr., whereas South Twin, the larger and wider of the two, moves 107 ft./vr. North Twin Glacier is relatively free of crevasses. South Twin has numerous areas of crevasses 3-20 ft. wide, which reseal by pressure or melt out as the glacier moves on. Examination of glacial deposits in Twin Glacier valley reveals a history of overall retreat with successively shorter glacier advances during the past thousand years. Outlet glaciers are sensitive and subject to marginal fluctuations; so study of their vacillation provides a key to the smaller marginal shifting of adjacent Nuna Ramp. As access routes, such outlet glaciers present numerous obstacles to vehicular traffic in the form of steep termini, minor surface irregularities, 5° ice slopes, surface melt-water run-off in deep stream channels, local heavily crevassed areas, slushy surfaces at certain seasons, and 10° to 15° snow-covered slopes where the glaciers leave the ieccap. Nevertheless they are not impassable if a carefully engineered route is made."—Author's abstract.

\*\*Copy seen: CaMAI.\*\*

WHITEHORN, W. V., see Henry, J. P., and W. V. Whitehorn. Effects . . . cooling of cortical respiratory area on exercise hyperpnea . . . 1956. No. 45524.

48942. WHITHAM, K., and E. I. LOOMER. A comparison of magnetic disturbance at Resolute Bay and Baker Lake, Canada. (Tellus, May 1956. v. 8, no. 2, p. 276–78, illus.) Also pub. as: Canada, Dominion Observatory, Contribution, 1956, v. 1, no. 27. 2 refs.

These two magnetic observatories located at 64.3° N. 264° E., and 74.7° N. 265.1° E. have been operating since 1948. Measurements were compared in an attempt to check the suggestion of H. Alfvén that possibly an inner auroral zone existed with a polar distance of 5°-10°. The data show no specific evidence of an inner zone of precipitation in the Canadian Arctic.

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48943. WHITSETT, JACK W. Engineering considerations in polar flight. (*In:* Alaskan Science Conference . . . 1952. Proceedings, *pub*. 1954, p. 22–24.)

Contains general description and review of problems commonly encountered in civil, electrical, chemical, and mechanical phases of engineering in arctic operation of aircraft. Various types of electrical equipment used for de-icing are briefly described and the hazards of cold-weather engine starting are indicated.

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48944. WHITTEN, CHARLES AR-THUR, 1909 . Geodetic surveys in Alaska. (Military engineer, July-Aug. 1956. v. 48, no. 324, p. 276-78, illus.,

map.)

Contains a brief historical review of exploration trends. The survey operations of Ernest Leffingwell along the arctic coast (No. 9835) are mentioned, and the geodetic control program of the Coast and Geodetic Survey in Alaska is described. In the summer of 1955, parties

of the Survey and the 30th Engineers worked in the northern area extending control across the Brooks Range and along the Arctic Slope.

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48945. WHITTINGHAM, D. G. V., and F. W. BASKERVILLE: Wet-cold trials in Scotland. [London] Air Ministry, Dec. 1954. 1 p.l., 22 p. illus. (R.A.F. Institute of Aviation Medicine, Farnborough, Hants., Flying Personnel Research Committee, FPRC 903.)

Four subjects, simulating a successful parachute drop, tested a survival pack designed for Naval aircraft during two days and nights in Feb. 1954. The tests were conducted in a wet cold environment. Temperatures ranged from 24° F. to slightly above freezing; snow depths in the area ranged from 1 to 5 ft. Additional equipment for testing was dropped by parachute after the first two days. The subjects suffered little more than discomfort. Results indicate that thaw with subsequent wetting and loss of thermal insulation is the most serious problem for survival in a wet cold environment. Recommendations concerning dinghies, clothing, rations, and stoves are given, and evaluations are made of the parachute as used for tents and padding, sleeping bags, air mattresses, poncho cape, immersion suit, vapor barrier boot, and signalling apparatus.

Copy seen: AMAU.

WHITTINGHAM, D. G. V., see also Smith, H. P. R., and others. Cold weather trials, Norway . . . 1950. No. 48084.

WHITTINGTON, CHARLES LUNN, 1918-, see Gryc, G., and others. Mesozoic sequence in Colville River region . . . 1956. No. 45325.

48946. WIBERG, OLLE. Påsk vid Peskehaure. (På skidor. Föreningen för skidlöpningens och friluftslivets främjande i Sverige. Årsbok 1956, p. 141-48, illus., map.) Text in Swedish. *Title tr.:* Easter at Peskehaure.

Notes from a two-week ski trip, with sledges, made by the author and three companions in the mountains north of Lake Peskehaure (66°56′ N. 16°40′ E., north Sweden). Mount Jeknaffo (1853 m., approx. 67°10′ N. 16°50′ E.) was climbed. *Copy seen:* DLC.

48947. WIBORG, KRISTIAN FRED-RIK, 1914- . Zooplankton in relation to hydrography in the Norwegian Sea. Bergen, 1955. 66 p. illus. (Norway. Fiskeridirektoratet. Skrifter, ser. Havundersøkelser, v. 11, no. 4.) 53 refs.

A study based mainly on material collected by the vessels of the Norwegian Fishery Research Institute from 1948 to 1954, with sections on the topography and hydrography of the Norwegian Sea; quantitative and seasonal distribution of the plankton; plankton regions; distribution of neritic fauna, and growth and size variation in copepods. This general part is followed by sections dealing with the quantitative distribution of the more common plankton forms of the upper layers during the summer; it includes copepods, coelenterates, chaetognaths, amphipods and five smaller groups.

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WIGLESWORTH, F. W., see Coffee, J. E., and F. W. Wiglesworth. Trichinosis in Canadian Eskimos. 1956. No. 44410.

48948. WIK, HARALD. Norra Sveriges sågverksindustri från 1800-talets mitt fram till 1937. Stockholm, AB Kartografiska institutet, 1950. 328 p. diagrs., illus., graphs, maps, tables. (Geographica, nr. 21.) Approx. 180 refs. Text in Swedish. Summary in English. Titte tr.: North Sweden's sawmill industry from the mid-19th century to 1937.

A survey of sawmill development in Norrland, based on real property tax records before 1896 and on source material for industrial statistics 1896-1937. Water-driven sawmills reached their peak in the 1860's, steam sawmills about 1900. The industry declined in the 20th century due to shrinking supplies of raw material and competition of the pulp industry. Increasing use of the circular saw in the 20th century, particularly in northern Norrland, and its effect on localization and distribution of the industry is discussed. Predominance of southern Norrland as a sawmill area has lessened since 1900. Importance of the industry to Norrland, its effects on agriculture and economic conditions are analyzed.

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48949. WIKGREN, BO JUNGAR, and E. MUROMA. Studies on the genus Diphyllobothrium; a revision of the Finnish finds of Diphyllobothrid plerocercoids. Helsinki, 1956. 22 p. illus., maps. (Acta zoologica Fennica, 93.) 49 refs. Distribution of fish tapeworm in Finnish

land is summarized. Infection is heaviest in the east; in the lower arctic regions, the range of affected persons is 41-60 percent, diminishing to less than five percent in the high North. Finnish finds of diphyllobothrid plerocercoids are reviewed. Those reported from pike, burbot, perch and ruff probably belong to Diphyllobothrium latum, as may those found in salmonids. New finds of plerocercoids of D. latum and D. osmeri are described; the first fish host of D. latum is discussed. D. latum does not pass through true plankton-feeding fish species, but has chiefly ruff and perch, etc., as first fish host. Copy seen: DLC.

48950. WIKLUND, KARL BERNHARD, 1868-1934. Bilder från Arjeplog. (Svenska turistföreningen, Stockholm. skrift, 1901, p. 415-18, 4 illus.) Text in Swedish. Title tr.: Pictures from Arjeplog.

A newly restored church marked the change of this Lappish village into a frontier town. Its characteristics, accommodations, etc., are cited; illus. show conditions in a Lapp settlement of the Copy seen: DGS.

48951. WIKLUND, KARL BERHNARD, 1868-1934. Några ord om skrifningen af lapska ortnamn. (Svenska turistföreningen, Stockholm. Årsskrift, 1895, p. 20-34.) Text in Swedish. Title tr.: Comments on the writing of Lappish place names.

For travel in Lapland, the value of knowing Lappish terms cannot be overrated. The names on sectional maps of Norrbotten (scale 1:200,000) are considered, with reference to misspellings. Svenonius, in the same journal, Arsskrift 1895, p. 450-51, replies to some of Wiklund's comments. Copy seen: DGS.

WIKLUND, KARL BERNHARD, 1868-1934, see also Collinder, B. Swedish research . . . Lapps. 1956. No. 44419.

48952. WILBER, CHARLES GRADY, , and T. W. GORSKI. The lipids in Bison bison. (Journal of mammalogy, May 1955. v. 36, no. 2, p. 305-308, tables.) 6 refs.

A study of fats in the various organs and tissues of bisons introduced in the late 1920's into central Alaska. lipids of the milk and blood were also determined as well as the phospho-lipid/ cholesterol and other ratios. The in-

vestigation was made to elucidate the problem of acclimatization.

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WILCOX, JOHN B., and E. 48953. MAPLE. Origin and propagation of audio-frequency geomagnetic field fluctuations. Boulder, Col. [1956]. 2 p. (In: U. S. National Bureau of Standards. Symposium on the propagation of V. L. F. radio waves, Jan. 23-25, 1957, paper no. 7.) Prepublication record.

Simultaneous measurements in the frequency range 40 c./sec. to 15 kc./sec. were made at Point Barrow, Alaska, White Oak, Md., and Panama City, Fla. Fluctuation intensity decreased with increasing latitude in the audio-frequency range which, together with other results, indicates that nearly all such fluctuations result from atmospherics generated in the lower latitudes, chiefly from thunderstorms, and propagated poleward. Copy seen: DLC.

48954. WILDHAGEN, AAGE, 1914- . Dyr i farger; padder, krypdyr, pattedyr. Oslo, Aschehoug, 1956. 113 p., 109 Text in Norwegian. Title tr.: Animals in color; amphibians, reptiles, mammals.

Popular descriptions are given of over a hundred representatives of these forms of animal life as found in Norway, a few elsewhere in Scandinavia; habitat, life cycle, distribution, aids to identification, scientific and common names are included, and most are illustrated in color by Karl Aage Tinggaard. Copy seen: DLC.

48955. WILDHAGEN, AAGE, 1914-Litt om varmereguleringen og våre land-(Naturen, 1952. nr. 3, p. 80-93, maps.) Text in Nor-Title tr.: Brief comment on

blooded land mammals.

pattedyr.

Bergmann's rule, that representatives of warmblooded animal species living in cold climates are larger than those living in warmer localities, and Allen's rule, that animals which live in cold regions have more compact body structure than their relations in warmer lands, are applied to large and small animals found in Norway, of which only the mountain fox is truly an arctic species. Temperature conditions optimum for one population may be unsuited to another of the same type. Local changes in temperature may have direct effects on species' welfare.

temperature regulation and our warm-

It appears that warmth-tolerant species are increasing and arctic types decreasing in Norway. **Copy seen:** DLC.

48956. WILEY, JOSEPH F. Status of insect control in Alaska, military aspects. (In: Alaskan Science Conference...1952. Proceedings, pub. 1954, p. 73.)

Includes information on efficient insect (mosquito) control for military camps and installations; equipment; protection of small, isolated stations; air and ground control measures and their merits, etc.

Copy seen: DGS.

48957. WILIMOVSKY, NORMAN J. The utilization of fishery resources by the arctic Alaskan Eskimo. Stanford, Calif., Natural History Museum, Stanford University, 1956. 8 p. map (*Its*: Occasional papers, no. 2) 7 refs.

Report of an investigation covering natives of the area from Point Hope in the west to Hershel Island, Yukon Territory. It was largely conducted by the Arctic Research Laboratory, Point Barrow, Alaska, with the aid of the Office of Naval Research. The marine and fresh-water fishes and their utilization by the local Eskimos, fishing methods, seasons and catch, conservation of stock, consumption, storage and preservation discussed. Fishing has been a secondary occupation among these seamammal hunters, and poorly developed. Fishery utilization has declined. It could be developed should need arise.

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48958. WILIMOVSKY, NORMAN J. The zoogeographic position of Alaska as indicated by the fishes. (In: Alaska Science Conference . . . 1953. Proceedings, pub. 1956, p. 189–90.)

Abstract of discussion on position and relation of Alaskan fishes to the major fish faunae of the world. Characteristic zoogeographic attributes and effects of recent climatic changes are noted.

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WILKE, FORD, see Bartholomew, G. A., and F. Wilke. Body temperature . . . northern fur seal . . . 1956. No. 43889.

48959. WILKE, H., and E. GRANZER. Künstlicher Winterschlaf für Operationen? (Orion, Mar. 1954. Jahrg. 9, no. 5-6, p. 169-75, illus.) Text in German. *Title tr:* Artificial hibernation for surgery?

Contains information on temperature

and rate of biological reactions, temperature regulation in mammals, physiology of hibernation. Induced hypothermia in man, its physiological aspects, and applications in surgery are outlined. Pharmacologically induced hypothermias are similarly discussed with critical evaluation.

Copy seen: DLC.

WILKINS, Sir GEORGE HUBERT, 1888–1958, see USQM Food & Container Institute. Nutrition symposium. 1954. No. 48643.

WILLETT, HURD CURTIS, 1903—, see Massachusetts Institute of Technology. Dept. of Meteorology. A report . . . elimatology . . . North Atlantic. 1942. No. 46654.

48960. WILLGOHS, JOHAN FREDRIK, 1915—. Litt om våre sjøfugl og vårt kjennskap til deres forekomst og bestandendringer. (Naturen, 1955. Årg. 79, nr. 17, p. 522–34, 3 illus.) Text in Norwegian. Title tr.: Some notes on our sea birds and our acquaintance with their occurrence and fluctuation in numbers.

Sea birds of the outer and inner coastal areas of Norway are considered from south to north. Food supply, meteorological and oceanographic changes, predatory animals, nesting and living habits, and infectious diseases are possible regulators of this population. Measures to keep it in optimum condition are discussed.

\*\*Copy seen: DLC.\*\*

48961. WILLGOHS, JOHAN FREDRIK, 1915— . Ornithological notes and news, I; from the Zoological Museum, University of Bergen. Bergen, J. Grieg, 1954. 16 p. (Bergen. Universitetet, Årbok 1954, naturvitenskapelig rekke, no. 7.) 36 refs.

Contains measurements, descriptive and critical notes also distributional data on 14 rare or notable species from the Museum collections; at least six are registered in northern Norway or Greenland; and one, the red-necked grebe, Podiceps griseigena, is native also to the Pribilof and Aleutian Islands.

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WILLGOHS, JOHAN FREDRIK, 1915- , see also Holgersen, H., and J. F. Willgohs. First breeding . . . Limosa limosa . . . Norway. 1956. No. 45585.

48962. WILLIAMS, FRANK ERNEST, 1877- . Lawrence Martin, 1880-1955. (Association of American Geographers. Annals, Sept. 1956. v. 46, no. 3, p. 357-64, port.)

Obituary of this American geographer, noting his education, his physiographic work between 1903 and 1917, especially his studies of Alaskan glaciers on various expeditions, 1904–1913; his work in political and historical geography following World War I. A bibliography of his publications is appended.

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WILLIAMS, GAYNOR PARRY, see Gold, L. W., and G. P. Williams. Dependence of snowfall on temperature. 1956. No. 45154.

48963. WILLIAMS, PETER J., and others. Preliminary report of investigations into certain solifluction and patterned ground features in Norway. Cambridge, England, Anglo-Norwegian-American Frozen Ground Research Group, 1956. [114] p. illus., sketch maps, diagrs., graphs, 6 tables. Mimeographed. 29 refs. Summary in Norwegian. Other authors: L. Ore, S. Haslam, and E. Smith.

Results of the Group's investigations mainly in mountain areas of central Norway, during 1953-1955; in 1955 the party of 13 was led by the writer. Factors involved in soil freezing and frost heaving processes are discussed. Solifluction terraces and amorphous solifluction (occurrence and the causes of soil movement) are described, with consideration of the development of stony earth circles. Plant communities on these solifluction and patterned ground features are treated in some detail. Appended is information on instruments and methods used in ground temperature measurement and recording of earth movements.

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48964. WILLIAMS, RALPH BENJA-MIN, 1910— A study of the types of tuberele bacilli found in human tubereulosis in Alaska. (Arctic, 1955, pub. 1956. v. 8, no. 4, p. 215–23, 7 tables.) 28 refs.

Account of investigation on the types of Mycobacterium tuberculosis responsible for the high prevalence of bone and joint tuberculosis in Alaska. In 180 cultures isolated from human cases of extrapulmonary tuberculosis, no bovine only human type bacilli were found. Of 5,114 cultures isolated by the Alaska Dept. of Health, all except one were of the human type. All this, and tuberculin tests of cattle indicate that the bovine type

bacillus plays a minor role in the etiology of human tuberculosis in Alaska.

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48965. WILLIAMS, ROBERT STAT-HAM, 1859–1945. Notes on some western liehens. (Torrey Botanical Club. Bulletin, Jan. 1919. v. 46, no. 1, p. 21–25.)

Includes a list of 21 lichens collected by the author in the Yukon Territory in 1898 and 1899, published as a supplement to No. 40441. **Copy seen:** DLC.

48966. WILLIAMSON, KENNETH. The autumn immigration of the Greenland redpoll, Carduelis flammea rostrata (Coues) into Scotland. (Dansk ornithologist forenings tidsskrift, May 1956. Årg. 50, hefte 2, p. 125–33, 4 illus.) 10 refs. Summary in Danish.

Contains notes on the taxonomy and migration routes of this bird from southeast Greenland to Scotland. Typical down-wind tracks and "onward passage" conditions caused probably by anticyclonic weather are discussed. Tables of measurements and of gains in weight of migrant birds are added.

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48967. WILLIAMSON, MAX R. Extra clinical services in tuberculosis treatment program in Alaska. (In: Alaskan Science Conference . . . 1953. Proceedings, pub. 1956, p. 221–31.)

Contains information on the beginnings of extra clinical services in TB treatment; case evaluation meetings and their functioning; outstanding case reports. Follow-up procedures and vocational diagnosis are outlined. Improving the mental health of the patient, occupational therapy, vocational counselling and placement, social planning, etc., are considered in turn.

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48968. WILLMAN, VALLEE L., and C. R. HANLON. The influence of temperature on surface bleeding, favorable effects of local hypothermia. (Annals of surgery, May 1956. v. 143, no. 5, p. 660-64, illus. table.) 23 refs.

Bleeding surfaces in experimental animals (dogs) were found to bleed less at low temperatures (5° C.) than at high (65° C.). The possible mechanism of this reaction and the clinical implications are discussed.

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48969. WILSKA, SEPPO. Trace elements in Finnish ground and mine waters. Helsinki, 1952. 76 p. 7 diagrs., 15 tables.

(Suomalainen tiedeakatemia. Toimituksia, sarja A-II, Chemica, no. 46.)

approx. 120 refs.

Water samples from many localities in Finland, (some in the Arctic) were investigated for trace elements. Technical procedure is described and results tabulated. Significance of trace elements in various scientific fields is increasing. Systematic study of the possibilities of this method of recognizing them may be worthwhile.

\*\*Copy seen: DGS.\*\*

WILSON, BASIL WRIGLEY, 1909—, see Price, W. A., and B. W. Wilson. Cuspate spits of St. Lawrence Island . . . discussion. 1956. No. 47456.

WILSON, C. B., see Harland, W. B., and C. B. Wilson. The Hecla Hoek . . . Ny Friesland . . . 1956. No. 45442.

48970. WILSON, CHARLES BRANCH, 1861-1941. Copepods from the far North collected by Capt. R. A. Bartlett. (Washington Academy of Sciences. Journal, Sept. 15, 1936. v. 26, no. 9, p. 365-76.)

Contains record of stations with a simple list of species collected along the coast of Labrador, and northern Canada, Davis Strait, Baffin Bay and the west and east coasts of Greenland; followed by a list of 83 species with distributional data.

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48971. WILSON, CHARLES BRANCH, 1861–1941. North American parasitic copepods belonging to the Lernaeopodidae, with a revision of the entire family. (U. S. National Museum. Proceedings, Mar. 6, 1915. v. 47, no. 2063, p. 565–729,

15 illus., plates 25–56.) 76 refs.

Contains data on the ecology, morphology, ontogeny and systematics of this family. Descriptive part contains keys to the genera and species, synonyms, generic and specific characters, critical remarks, and records of hosts and specimens.

The family includes 23 genera and 136 species, of which 12 genera and 21 species are new to science. At least six of the new species are native to Alaska, the Aleutian Islands and Sitka; one was recorded in Greenland. Copy seen: DLC.

48972. WILSON, CHARLES SAWYER, 1904—. The status of mosquito control in Alaska, civilian aspects. (In: Alaskan Science Conference . . . 1952. Proceedings, pub. 1954, p. 72.)

Comparisons between the civilian and military mosquito control are made and information is presented on the activities of the Arctic Health Research Center; spraying operations and their effect, etc. Copy seen: DGS.

WILSON, CHARLES W., see Chapman, R. M., and others. Geological and geographical research in Alaska's future development . . . 1954. No. 44311.

WILSON, CHARLES W., see also Wilson, J., and others. Frontier development problems . . . 1956. No. 48979.

48973. WILSON, CLIFFORD P. History for moderns. (Beaver, Winter 1956. Outfit 287, p. 32–35, illus.)

Photographs and discussion of the Hudson's Bay Co. Museum at Winnipeg, Copy seen: DLC.

48974. WILSON, DAVID S. Processing of arctic char at Coppermine. (Northern affairs bulletin, Apr.-May 1956. v. 3, no. 3, p. 7-9.)

Account of project conducted by the Coppermine Federal Day School in order to provide the local Eskimos with a home industry and needed extra income. Various methods of processing and canning were tried on a small scale. Filleting and freezing proved the most advantageous, both as to quality of product and the Eskimos' ability to prepare it.

Copy seen: CaMAI.

WILSON, E. B., see Explorers Club. Told . . . Explorers Club . . . tales . . . 1931. No. 44832.

48975. WILSON, EDWARD M., and P. RICKARD. Frozen words. (Polar record, May 1956. v. 8, no. 53, p. 95–108, illus.) 15 refs.

Humorous survey of literary references to words freezing and thus becoming inaudible, to become audible again on thawing. Extracts are given from such classic writers as Plutarch, Castiglione, Rabelais, etc.

\*\*Copy seen: DLC.\*\*

48976. WILSON, H. P. The estimation of 1,000–500 mb thicknesses. Toronto, Mar. 28, 1956. 6 l. table. (Canada. Meteorological Service. Circular 2769, TEC 231.) Ref.

A single method for estimating the 1,000–500 mb. thickness from the 500 mb. temperature is described, which is useful in analyzing circumpolar 500 mb. charts. Thickness values are tabulated for  $5^{\circ}$  temperature intervals from  $-15^{\circ}$  to  $-50^{\circ}$  C. applicable for marine and

continental stations. Possible large-scale errors are discussed although the results were generally satisfactory. A variation of the method using temperatures at two levels and theoretical considerations of the problem are also discussed.

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48977. WILSON, H. P. Test of a grid method of forecasting the motions of lows at 500 millibars in arctic regions. Toronto. Oct. 1954. 8 p. diagr., 3 tables. (Canada. Meteorological Serv-Circular 2539, TEC-194.) 2 refs. "Riehl's grid method for forecasting the 24-hr. motions of hurricanes . . . was modified into a square grid . . . [and] applied to the Arctic, where air masses are predominately barotropic, and tested with 500 mb. charts of the Historical Weather Map series for Jan,-Sept. 1951. The method developed for the Arctic is described and the assumptions and errors are discussed. This grid method was found to give satisfactory forecasts about two-thirds of the time."-Meteorological abstracts and bibliography, Jan. 1956. Copy seen: DWB.

WILSON, H. P., see also Berry, F. A., and others. Arctic weather maps. 1949-50. No. 44007.

48978. WILSON, HENRY VAN PETERS, 1863—, and J. T. PENNEY. A new variety of the hexactinellid sponge, Rhabdocalyptus dawsoni (Lambe) and the species of Rhabdocalyptus. (U. S. National Museum. Proceedings, Feb. 5, 1930. v. 76, art. 8, no. 2805, p. 1–9, 2 plates.) 13 refs.

R. d. var. alascensis n. var., off Cape Speneer, Alaska, is fully described. An annotated list of 13 known species of this genus is appended, including R. mirabilis, coast of Alaska. Copy seen: DLC.

48979. WILSON, JAMES, and others. Frontier development problems, a symposium. (In: Alaskan Science Conference . . 1953. Proceedings, pub. 1956, p. 126.) Other authors: C. W. Wilson, D. L. Irwin, H. A. Johnson, A. H. Mick, and P. O. Ripley.

Abstract, summarizing problems discussed: decline of food production in Alaska, slow farm development, outmoded laws, lack of capital, rapid development of potato farming and its risks, coordination of research between Canada and Alaska, etc. The Tanana valley is stressed as potential agriculture area.

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48980. WILSON, JOHN TUZO, 1908-

, and others. Economic significance of basement subdivision and structures in Canada. (Canadian mining and metallurgical bulletin, Aug. 1956. v. 49, no. 532, p. 550-58, 2 text maps, 14 tables.) 46 refs. Also pub. as: Canadian Institute of Mining and Metallurgy. Transactions 1956, v. 59, p. 310-318. Other authors: R. D. Russell and R. M. Farquhar.

Contains "results of age determinations made upon Canadian minerals as aids in recognizing and interpreting some of the geological subdivisions of Canadian rocks." Includes among others, ages of pegmatites from Yellowknife (Great Slave Lake), Eldorado Mine (Great Bear Lake), and Stark Lake, all in Mackenzie District, and of lead ores from several mines in Yukon Territory and from Pine Point and Yellowknife, Great Slave Lake. On the basis of these and other dates, the Canadian Shield is divided into basement provinces separated by fault zones (Keewatin, Yellowknife, Athabaska, Labrador Coast, Great Bear, Grenville, Appalachian, Cordillera). Ages of pegmatites and lead ores are given for each province. Formation of the provinces, their faults, and associated orebodies are discussed.

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48981. WILSON, JOHN TUZO, 1908—
. Geophysics. [Washington, D. C.]
1956. 11 p. (In: U. S. Office of Naval
Operations. The dynamic North, v. 1,
no. 1.) 4 refs.

Contains a discussion of arctic and polar aspects of several geophysical topics, including isostasy, gravity, seismology, volcanology, and terrestrial magnetism. The problem of possible migration of the poles is touched upon. Some of the pioneer measurements and observations of a geophysical nature are described briefly.

Copy seen: DLC.

WILSON, JOHN TUZO, 1908—, see also U. S. Office of Naval Operations. Canadian North. 1956. No. 48635.

48982. WILSON, MILDRED STRAT-TON, 1909— North American harpacticoid copepods, 3; Paracamptus reductus, n. sp. from Alaska. (Washington Academy of Sciences. Journal, Nov. 1956. v. 46, no. 11, p. 348–51, illus.) 2 refs.

Contains a full description of this freshwater copepod (male and female) obtained by O. A. Mathisen at the margin of Lake Tikchik, Bristol Bay, southwestern Alaska (ca. 60° N. 159° W.), Aug. 19

1954; also at Paxson Lake, Richardson Highway, Alaska (ca. 63° N. 145° W.), June 28, 1951. It was found occurring with *Moraria duthiei* and *M. mrazeki*. Copy seen: DLC.

48983. WILSON, MILDRED STRAT-TON, 1909—. Problems encountered in zoogeographic study of fresh-water copepods. (*In:* Alaskan Science Conference . . . 1953. Proceedings, *pub.* 1956. p. 167-71.) 6 refs.

Contains general information on the geographic distribution of these crustaceans; on means of dispersal; cosmopolitanism and regionality; water as means or barrier to dispersal; ecological factors and distribution. The origins of northern forms and their distribution, arctic-alpine distribution patterns, effect of Pleistocene glaciation, etc., are also discussed.

Copy seen: DGS.

48984. WILSON, MORLEY EVANS, 1882- . Fluorspar deposits of Canada. Ottawa, King's Printer, 1929. 97 p. illus., text maps, tables. (Canada. Geological Survey. Economic geology series, no. 6.) approx. 50 refs.

Includes (p. 30) brief description of fluorspar deposit on Dubawnt River about 35 mi. west of Baker Lake, Keewatin District (55°21′ N. 133°37′ W.); cryolite deposit (p. 94) at Ivigtut, southwest Greenland.

Copy seen: DGS

48985. WILSON, MORLEY EVANS, 1882- . Talc deposits of Canada. Ottawa, King's Printer, 1926. 149 p. illus., maps (2 fold.), tables. (Canada. Geological Survey. Economic geology series, no. 2.) approx. 100 refs.

Includes notes on soapstone and talc deposits on Rae and Tree Rivers, Coronation Gulf, Mackenzie District, and in southeastern Baffin (p. 51–52); soapstone or steatite on the east coast of Hudson Bay and Koksoak River, northern Quebec, and Nickvale Inlet, Labrador coast (p. 95). Illus. of Eskimo and Indian soapstone carvings (p. 129).

Copy seen: DGS.

48986. WILSON, OVE. Adaption of basal metabolic rate to climate; a review. (Metabolism, clinical and experimental, Sept. 1956. v. 5, no. 5, p. 531-42.) 190 refs.

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A review of literature and ideas on this problem. Most investigators found a reduced BMR for white individuals moving into, or living in the tropics. No

corresponding increase was found in man living in the Arctic, the high metabolic rate of the Eskimos being due to high protein diet and apprehension. Investigations in cold laboratories also failed to show an increase of BMR in man similar to that observed in animals. The effect of seasonal changes is also discussed.

Copy seen: DNLM.

48987. WILSON, OVE. Basal metabolic rate in the Antarctic. (Metabolism, clinical and experimental, Sept. 1956, v. 5, no. 5, p. 543-54, illus., table.) 82 refs.

A study of nine men during their two years' sojourn in the Antarctic and after their return home. The average BMR was -4.1 percent, -5.0 percent, and -4.9 percent in the three successive years. A significant seasonal trend was observed with peaks in the autumn and spring and a fall during the polar night; this periodicity is attributed to outdoor activity, cold exposure, etc. in fall and spring and to the sedentary indoor life during the polar night.

Copy seen: DNLM.

48988. WILSON, WILBOR OWENS, 1910—, and others. The effect and after-effect of varied exposure to light on chicken development. (Biological bulletin Dec. 1956. v. 111, no. 3, p. 415–22, illus., tables.) 17 refs. Other authors: A. E. Woodard, and H. Abplanalp.

A study on the effects of total daily amount of light, its intensity and the frequency of intervals on development and growth. Weight and size, age and sex, primary and secondary sex organs, and characteristics, etc., were considered in analyzing the variable effects of illumination.

Copy seen: DLC.

WIMMER, HARRY, see Branton, C. L., and H. Wimmer. Preserving wood. 1956. No. 44120.

WIMPENNY, R. S., see International Commission for NW. Atlantic Fisheries. Annual proceedings . . . 1955-56. 1956, No. 45703.

48989. WINCHESTER, JAMES W., and C. C. BATES. Meteorological conditions and the associated sea ice distribution in the Chukchi Sea during the summer of 1955. [Washington, D. C., U. S. Hydrographic Office.] 1956. 7 p. Mimeographed.

In mid-Aug. 1955, meteorological and ice conditions deteriorated in the Chukchi and Beaufort Seas between Cape Lisburne, Alaska, and Herschel Island, Mackenzie District. From Aug. 25 to Sept. 7, the polar pack prevented shipping past Point Barrow; meteorological conditions are described, with attention to storm paths and their effect on the polar pack. Further study of meteorological and occanographic factors in this area is indicated. Copy seen: DN-HO.

48990. WING, LEONARD WILLIAM, 1906— Dusting by the merlin, Falco columbarius. (Condor, Nov.-Dec. 1950. v. 52, no. 6, p. 275.)

Contains an observation on this bird taking a dust bath near Mile 101 (British Columbia) on the Alaska Highway, on June 13, 1948. The general action seems to be the same as for a gallinaceous bird.

Copy seen: DLC.

48991. WINGE, KNUT. Sommarlif i högfjällen. (Svenska turistföreningen, Stockholm. Årsskrift, 1898, p. 176–97, 7 illus.) Text in Swedish. *Title tr.*: Summer life in the high mountains.

Geologic reconnaissance, collecting of bedrock specimens, mapping mountains and glaciers, and photographic work occupied the writer's party in the Sarek region of northern Sweden. He recounts the day-to-day activities, noting landscape, temperature ranges, transport, supply, and Lappish traits.

Copy seen: DGS.

4892. WINGFIELD, C. A. The activity and metabolism of poikilothermal animals in different latitudes, 4. (Zoological Society of London. Proceedings, May 1939, v. 109, ser. A, pt. 1, p. 103–108, illus.) 32 refs.

Account of investigation of metabolic adaptation (O<sub>2</sub>-consumption) to latitude in three species of the worm *Pectinaria*, two British and one arctic. Only when comparing the arctic *P. granulata* with *P. koreni* was there a metabolic adaptation to latitude (cold) noted.

Copy seen: DLC.

WINKLER, K., see Hensen, A. T., and others. Measurement of coronary blood flow . . . krypton 85. 1956. No. 45425.

4893. WINSTON, JAY STEVEN, 1921— . Physical aspects of rapid cyclogenesis in the Gulf of Alaska. (Tellus, Nov. 1955. v. 7, no. 4, p. 481—500, 32 text charts, graphs, 2 tables.) 28 refs.

"During much of the year such cyclo-

genesis takes place in the presence of a large heat source associated with rapid modification of cold Arctic air masses moving from Alaska out over the warmer sea surface of the Gulf . . . A case of intense development occurring early in Feb. 1950 has been studied, mainly in terms of the vorticity equation. effects of barotropic redistribution of vorticity seem to account for much of the development. However, it is found that there exist pronounced fields of divergence and vortical motion, which particularly at the time of most rapid development reflect the influence of heat sources on the circulation."-From author's abstract.

Copy seen: DLC.

WINTERKORN, HANS FRIEDRICH, 1905—, see Ruckli, R., and H. F. Winterkorn. Discussion of "Suction forces . . . freezing." 1955. No. 47696.

WIRSELL, GUNNAR, see Beskow, H., and others. Norrbottens bygd...1953. No. 44014.

4894. WOAKES, M. E. Reconnaissance survey in the Canadian N. W. T. (Mining magazine, Sept. 1956. v. 95, no. 3, p. 144-50, 6 illus.)

Account of the Canadian Geological Survey's "Operation Franklin," a geological recomnaissance of the Queen Elizabeth Islands in summer 1955 with emphasis on determination of major stratigraphic units and structures. Work of the three advance cache parties May 10-June 6, and the main helicopter operations involving nine parties June-Sept. are noted. Transport and communications, weather conditions are described. Planning and operational notes on helicopters are given.

Copy seen: DGS.

4895. WOHLSCHLAG, DONALD EUGENE, 1918- . Information from studies of marked fishes in the Alaskan Arctic. (Copeia, 1956. no. 4, p. 237-42, text map.) 14 refs.

Contains discussion of the results, possibilities, and technical aspects of mark-and-recapture studies in 1952 and 1954 of Coregonus sardinella and C. nasus kennicotti in fresh-water Ikroavik Lake, and C. sardinella and Myozocephalus quadricornis in a mile-long shallow tidal estuary of Elson Lagoon both near Point Barrow. Resampling (1954) indicated that the population of C. sardinella over 180 mm. long must have remained isolated in the lake, almost unchanged (5700) in

numbers and in uniform distribution, and retained the same level of annual mortality (ca. 0.59 per year). Likewise the population of *C. nasus* seemed to have remained constant (less than 600), isolated, with a very low mortality rate. The population of sculpin, *M. quadricornis*, in Elson Lagoon estuary (400 fish over 150 mm. long) was transitory and gradually filtered back into the lagoon. The studies were sponsored by Stanford University (1952) and the Arctic Institute of North America (1954) with the Office of Naval Research. *Copy seen:* DSI.

48996. WOJCIK, FRANK J. Growth and maturation of arctic grayling in interior Alaska. (*In*: Alaskan Science Conference . . . 1953. Proceedings, *pub*. 1956, p. 83–89, diagr.) 4 refs.

Presents information on growth and life history of Thymallus s. signifer Richardson, a most sought-after sport fish, conditions in the water around Fairbanks serving as base. Some ecological data, age of maturation, longevity, etc., are also discussed.

Copy seen: DGS.

4897. WOLBACH, ROBERT A., and others. Skin temperature changes during production of experimental frostbite. (Federation proceedings, Mar. 1956. v. 15, no. 1, pt. 1, p. 202–203.) Other authors: J. R. Blair, T. B. Roos, and W. F. Strauss.

Summary of observations on unanesthetized rabbits having their hind feet exposed to temperatures of -15° to -25° C. Conditions during thawing are also noted.

\*\*Copy seen: DLC.\*\*

WOLF, HORST, see Ushakov, G. A. Unbekanntes Inselland. 1954. No. 48656.

4898. WOLFF, ERNEST N. Engineering research at the University of Alaska. (*In:* Alaskan Science Conference . . 1953. Proceedings, *pub.* 1956, p. 47–48.)

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The research program during the previous two years comprised projects (13) on: movement of benchmarks in permarks, map showing areas withdrawn from mining in Alaska, Handbook for the Alaskan prospector, recovery of sheelite, publication of Dr. A. H. Brooks' Blazing Alaska's trails, administration, on mineral deposits and history of mining camps in Alaska, mineral identification lists and a mineral map of Alaska, marine borers,

methods of utilizing Alaskan coals, geochemical, geo-biochemical, and geobotanical prospecting in Alaska; also preparation of a book on placer mining methods and costs in Alaska. *Copy seen:* DGS.

**48999.** WOLFGANG, ROBERT W. and J. B. POOLE. Distribution of Echinococcus disease in northwestern Canada. (American journal of tropical medicine and hygiene, Sept. 1956. v. 5, no. 5, p. 869–71.) 9 refs.

Report on antigen survey conducted during 1953–55 among the Indians of the Northwest Territories and indicating 31 percent positive reactions among 2,022 persons tested. Examination of wildlife revealed moose, elk, caribou and reindeer to be infected with hydatid cysts and wolves with the adult tapeworm.

Copy seen: DNLM.

WOLFSON, ALBERT, 1917—, see Savile, D. B. O. Known . . . origin . . . North American biota. 1956. No. 47810.

**49000. WOOD, HENRY.** Fisheries of the United Kingdom. (*In:* Graham, M. Sea fisheries, 1956. p. 10–79, illus.,

tables, maps.)

Fishery in primitive and historical times is reviewed, its development in the British Isles; gear and methods of demersal fishing: demersal fisheries, including those in arctic regions, for cod, haddock, plaice, etc.; their prospects (limited). Pelagic fisheries, their history, gear and methods are discussed, herring fishery methods and the industry are described; also fisheries for other pelagic species; their future (expanding).

Copy seen: DLC.

49001. WOOD, THOMAS H. Lethal effects of high and low temperatures on unicellular organisms. (Advances in biological and medical physics, 1956. v. 4, p. 119–65, illus., tables.) 79 refs.

A review and discussion of the action of high and low (below 0° C.) temperatures upon the destruction of unicellular organisms and their constituents, such as proteins, enzymes or nucleic acids. Selected quantitative studies are analyzed with the aim to find the factor responsible for the inactivation of the tested material. The literature on coldinactivation (p. 148-58) is selected primarily for the temperature range of 0° to -80° C. and includes viruses, bacteria, yeasts, erythrocytes, other cells, and cell

constituents. A discussion of experimental results, general conclusions, and suggestions for future research close this review.

Copy seen: DNLM.

WOOD-SMITH, F. G., see Lamont, S., and others. Hypothermia. 1955. No. 46226.

WOODARD, ALLEN E., see Wilson, W. O., and others. The effect and after-effect . . . light on chicken development. 1956. No. 48988.

WOODBURY, RICHARD B., 1917—, see Sanders, I. T. Societies around the world. 1966. No. 47782.

49002. WOODHEAD, N., and R. D. TWEED. An algal collection from Spitsbergen. (Norske videnskabers selskab, Trondheim. Forhandlinger, 1956. bd. 29, no. 4, p. 16-21.) 30 refs.

Contains a systematic list of 75 freshwater algae, of which 50 belong to diatoms; they were collected in two areas in the western part of Ny Friesland in West Spitsbergen during the Oxford and Cambridge Expediion, 1951.

Copy seen: DLC.

49003. WOODRUFF, GEORGE A. Report of the physical land conditions in the Susitna River - Red Shirt Lake area. Palmer, Alaska, U. S. Dept. of Agriculture, Soil Conservation Service [May 1955]. 32 p. 41 plates, 4 maps (1 fold.), cross-section, 5 tables. Typescript. 5 refs.

Contains results of a land use capability survey by a six-man party (U. S. Soil Conservation Service-Alaska Agricultural Experiment Station), led by the writer, 1953-1954. Area discussed lies along the east bank of the Susitna River from its mouth on Cook Inlet at approx. 61°15' N. 150°40' W., north to approx. 61°50' N.; it is undeveloped except for small gardens; transportation and communication facilities are practically nonexistent. Soil and climatic conditions appear as favorable for crop production as in the Wasilla area to the east. Climate, soils, wetness, and flooding are briefly discussed; also surficial geology (by F. W. Trainer, U. S. Geological Survey). Land mapping symbols and the land use capability classification are explained; practices are recommended for each land use capability class in the area; climatic data are given for the village of Susitna and the Matanuska Agricultural Experiment Sta-Copy seen: DGS. WOODS, HENRY FITZWILLIAM, 1872- , see Morgan, E. E. P. God's . . . Alaska . . . 1948. No. 46839.

woods, kenneth brady, 1905—, see Frost, R. E., and others. Comprehensive report . . . airfield construction . . . 1948. No. 44993.

49004. WOODS, RICHARD, and L. D. CARLSON. Thyroxine secretion in rats exposed to cold. (Endocrinology, Sept. 1956. v. 59, no. 3, p. 323-30, illus., tables.) 22 refs.

Account of two series of experiments with adult male rats exposed to cold (5° C. ±1°) for periods up to 60 days. Both studies confirmed earlier evidence that thyroxine secretion is greatly increased after two weeks of cold-exposure; it remained so throughout the 60-day period.

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49005. WOODS HOLE, MASS., OCE-ANOGRAPHIC INSTITUTION. North Atlantic oceanography under Task Order I conducted during the period Oct. 1, 1955-Dec. 31, 1955. Woods Hole, Mass., Jan. 1956. ii, 12 l., unpub. ms. 5 refs. (*Its.* Periodic status report no. 38. Reference no. 56-11.)

Contains summaries of work conducted during the quarter Oct. 1-Dec. 31, 1955. A re-examination of the circulation of the Greenland-Norwegian Sea area was made and the traditional concept presented by Helland-Hansen was modified. The cyclonic eddy in the Norwegian Sea is much further west than previously described, being centered in the basin between Iceland and Jan Mayen. The Norwegian Current is very broad and spreads out over the deepest portion of the basin. The deep water of the Norwegian Sea (below 1,500 m.) with a temperature of 0.96° or warmer, is quite distinct from that of the core of the Greenland Sea eddy which has deep temperatures of  $-1.00^{\circ}$ The Norwegian Sea, not the or colder. Greenland Sea, is believed to be the source of Polar Deep water. An analysis and interpretation of results of experiments on the Northern and Southern Hemispheres were made with an eightfoot rotating model.

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49006. WOODWORTH, RALPH W. Arctic surveying. [Washington, D. C.] 1956. 3 p. 1., 10 p., 2 text maps. (In: U. S. Office of Naval Operations. The dynamic North, v. 2, no. 2.) 16 refs.

Contains a discussion of some of the general problems encountered in surveys of land and water areas of the Arctic; such surveys are not difficult but winter work is reduced to a minimum. The selection of proper transportation is the most important problem. Field methods and instrumentation are similar to those used in temperate regions. Progress made by the U. S. Coast and Geodetic Survey in Alaska in triangulation and hydrography through 1956 is mapped.

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49007. WOOLLARD, GEORGE PRIOR, 1908-, and others. The establishment of an international gravity standard. (American Geophysical Union. Transactions, Apr. 1956. v. 37, no. 2, p. 143-55, diagrs., tables, text map.) 9 refs. Other authors: J. C. Rose and W. E. Bonini.

Describes a program of pendulum and gravimeter measurements for the establishment of a gravity standard between Mexico and Alaska. The northern terminus selected was at Fairbanks, Alaska, with the route following the Alaska Highway from Edmonton to Fairbanks. Included in the Gulf pendulum bases are Whitehorse, Fort St. John, Edmonton, and Fairbanks. Problems involved in obtaining precise measurements with pendulums are discussed, values for three independent sets of pendulum measurements and gravimeter measurements are compared.

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49008. WOOLLARD, GEORGE PRIOR, 1908—. Gravity program of the U. S. National Committee for the IGY. (Scientific monthly, Dec. 1956. v. 83, no. 6, p. 298–300.)

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Plans call for a new line of measurements from Thule, Greenland, down the east coast of South America to Cape Horn, an extension of the Alaska-Mexico line down the west coast of South America, and a new line from the Aleutian Islands along the east coast of Asia through Australia to the Antarctic. Two stations are contemplated for ice islands in the Arctic Basin. Gravity measurements will be made by Arctic Institute of North America parties in the Antarctic as part of the glaciological program.

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4909. WOOLLARD, GEORGE PRIOR, 1908- . Standardization of the world's gravity data. (American Geophysical Union. Transactions, Dec. 1956. v. 37, no. 6, 669-75, 3 text maps.) 12 refs,

Some of the problems of standardization are discussed, and programs developed in the U. S. using pendulums and gravimeters are described. Most of the major obstacles will have been surmounted by the end of the IGY. Map shows location of principal international gravity bases established to date, including several stations in Alaska, Greenland, and northern Canada.

Copy seen: DLC.

WORLD METEOROLOGICAL OR-GANIZATION, see Barlow, E. W. The international ice nomenclature. 1958. No. 43873.

WOTKYNS, R. S., see Eiseman, B., and others. Prolonged hypothermia . . . pneumococcal peritonitis. 1956. No. 44749.

49010. WRIGHT, GRANT MacLACH-LAN, 1917— . Geological mapping by light helicopters, N. W. T., Canada. (Economic geology, Jan.-Feb. 1956. v. 51, no. 1, p. 127.)

Contains abstract of paper presented at the Annual Meeting of the Society of Economic Geologists, Feb. 20–23, 1956, New York. Operations Keewatin (1952), Baker (1954) and Thelon (1955) mapped 185,000 sq. mi. between Hudson Bay and Great Slave Lake on scale 8 mi.: 1 in. at average cost of \$2.67 per sq. mi. Each operation required 15–16 men, two helicopters for geological observations, and one Norseman aircraft to move base camp and supplies. Geological data were obtained from 5,000 landings, 10,000 passes below 50 ft., and innumerable observations above 50 ft.

Copy seen: DGS.

49011. WRIGHT, L. A. Medical aspects of military operations by the RCAF in a cold climate. (Canadian services medical journal, Oct. 1956. v. 12, no. 9, p. 768–75.)

Information is presented on the geography and climate of Canada; medical facilities in northern military bases; combined army air force operations; mercy flights; air evacuation, its organization and personnel; para-rescue medical training, personnel and equipment; survival training and ration; problems peculiar to the North (selection of personnel, epidemics, endemic diseases); research and development.

Copy seen: DNLM.

49012. WRIGHT, NOEL. The forgotten cairn. (Arctic, 1956. v. 9, no. 4, p. 268-69.)

Dease and Simpson built a cairn on Cape Britannia (68°03' N. 95°43' W. in Keewatin District) to preserve report of their journey in 1839 (cf. No. 16124). Sir John Franklin knew this, and may have used it also, while on his fatal expedition of 1845-47. This cairn should be investigated. Copy seen: DLC.

WRIGHT, RITA C., see Porter, V. S., and others. Anemia in western Alaska. 1956. No. 47428.

49013. WRIGHT, WILLIAM GREEN-WOOD, 1831- . The butterflies of the west coast of the United States, with colored figures and descriptions of many new species and new varieties now first published. Ed. 2. San Bernardino, Calif., Pub. by the author, 1906. 257, vii p. port., 32 col. plates (940 figs.) First pub. in 1905.

Contains notes on general features of butterflies, a complete list of those in the United States, and (p. 70) 29 forms of new species described by the author. A systematic list follows of 487 species with brief description and illus., also data on habitat food plants, and distribution. Some species native to Alaska are included. Copy seen: DLC.

49014. WUSTMANN, ERICH, 1907- . Isbjörn; wo Männer und Eisbären sich begegnen. Radebeul, Neumann Verlag [1955] 154 p. illus., plates. Text in German. *Title tr:* Isbjörn; where men

and polar bears meet.

Popular sketches of arctic wildlife in the form of a story about the polar bear "Isbjörn" and its wandering in area of Greenland Sea between Svalbard and Greenland: seals, walrusses, sea lions, birds, fishes are described; also Swedish, Norwegian, Newfoundland and Eskimo hunters, their huts, equipment and dogs. The polar bear's search for food and its encounters with men and dogs, etc., are recounted. Illus. by excellent photographs and drawings. Copy seen: DLC.

49015. WUSTMANN, ERICH, 1907- . Klingende Wildnis; Erlebnisse in Lappland. Eisenach, E. Röth, 1956. 142 p. illus. 15 refs. Text in German. Title tr: Ringing wilderness; experiences in Lapland.

Author and family spent several years

among the Swedish Lapps, whose language he speaks. He describes their way of life and mentality, and his own work: the recording and study of folk songs, both text and music, and their meaning and origin. Songs (77) are presented in Lappish with German translation and some (19) melodies reproduced. Some of the latter originate from other Lapp areas. Copy seen: DLC.

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49016. WYATT, WILLIAM H. Strong surface winds at Elmendorf AFB, Alaska. Nov. 9, 1956. 3 l., 24 maps. 3 refs. (U. S. Air Force, 7th Weather Group (MATS). Technical memorandum no. 18.)

Synoptic situations leading to strong surface winds at this base on Dec. 18, 1955 and Feb. 18, 1956 are described and illustrated. Strong winds have been recorded in every month of the year. A typical synoptic pattern leading to such wind conditions features a deep low over the Gulf of Alaska and high pressure over the interior of Alaska. Brief hints on forecasting these conditions are included. Copy seen: DAWS.

WYLIE, R. G., see Cass, M. H., and others. The induction and control of hypothermia. 1956. No. 44295.

49017. WYLLIE, P. J. Ice recession in Dronning Louise Land, NorthEast Greenland. (Journal of glaciology, Oct. 1956. v. 2, no. 20, p. 704–708, 2 illus. (p. 709), text map.) 3 refs.

Results of observations during British North Greenland Expedition 1952–1954. "The effect of high rock thresholds in the W. part of this area on the glacier recession is discussed. These barriers restrict the flow of ice from the icecap. Evidence is presented to show that the recession of the glaciers is controlled, in the final stages, by the thinning of the icecap and the consequent emergence of rock thresholds. It is possible that many of the glaciers of E. Greenland have similar barriers at the icecap margin. If so, starvation of the glaciers by being cut off from the icecap may be a more important factor in recent recession than has been recognized."—SIPRE.

Copy seen: DGS.

49018. WYNN, VICTOR. The metabolism of fructose during hypothermia in man. (Clinical science, 1956. v. 15, no. 2, p. 297–304, illus., table.) 24 refs. Disappearance of injected fructose from the blood during hypothermia of 28.5–30.5° C. was found to be greatly impeded, which is assumed to be due to its reduced penetration into the cells. Subsequently plasma glucose rose sharply. Large injection of insulin had little effect upon this apparent conversion of fructose to glucose. This behavior of carbohydrate metabolism is analyzed and discussed.

\*\*Copy seen: DNLM.\*\*

49019. WYNNE-EDWARDS, VERO COPNER. Birds observed at Goose Bay and elsewhere in Labrador. (Canadian field-naturalist, Apr.-June 1956. v. 70, no. 2, p. 76-77.) 6 refs.

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Six birds observed July 6–11, 1953, are listed with notes; four sparrow and five other species are also mentioned. A Canadian zone element of the fauna is stressed; a few notes added on the birds elsewhere in Labrador.

Copy seen: DA.

49020. WYSZECKI, GÜNTER. Theoretical investigation of colored lenses for snow goggles. (Optical Society of America. Journal, Dec. 1956. v. 46, p. 1071–74, illus. table.) 12 refs.

Account of investigation aimed at finding a kind of glass which would make crevasses, fissures, ditches, etc. more visible. Safe driving or skiing in a snow field depends frequently upon early detection of changes in elevation, especially difficult under overcast sky when the entire visual field seems of the same whiteness ("arctic whiteout"). Four basic types of danger areas are considered: ditch, crevasse, step and spherical depression; and the "step" is found to be the most dangerous as far as detectability goes. No specific color of glass for absorbing lenses is found likely to improve visibility of these obstacles during Even red glasses, which according to theory should give maximum improvement, were found to be not better than neutral glasses.

Copy seen: DLC.

49021. YAMAJI, KENJI, and D. KUROIWA. Study of elastic and viscous properties of snow by the vibration method I. (Teion-kagaku, Low temperature science, Sapporo, 1954, ser. A, no. 13, p. 49–57, illus., graphs, diagr.) 5 refs. Text in Japanese. Summary in English.

"The results of preliminary experiments with a rectangular sample of old snow are reported and data are graphed. Young's modulus was determined to be of the order of 10° (C. G. S.), increasing with density and decreasing temperatures. The vibration loss was about 10³ at low temperatures and 10⁵ near the m. p., showing a tendency to increase with decreasing density. The activation energy, as estimated from the temperature characteristics of the internal viscosity coefficient, was 12.3–18.3 kcal./mol."—SIPRE.

Copy seen: DLC.

49022. YOHE, RALPH SANDLIN. Norway is developing the agriculture of its north land. (Foreign agriculture, Oct. 1953. v. 17, no. 10, p. 183–87, 2 illus.)

Recounts impressions from an auto journey to northern Norway: differences between farming conditions there and in lower latitudes, work of the Holt experiment station at Tromsø, seed problems, etc.; a general survey is given of the scope of the north Norway agricultural development program.

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49023. YOSHIDA, JUNGO. A quantitative study on the metamorphosis of snow crystals. (Teion-kagaku, Low temperature science, Sapporo, 1954, ser. A, no. 13, p. 11-28, illus., graphs, diagr.) 5 refs. Text in Japanese. Summary in English.

"The smoothing of snow-crystal surfaces and the evaporative thinning of dendritic snow-crystal branches in the attachment regions during metamorphism are analyzed mathematically. The analysis indicates that vapor-tension differences responsible for thinning and smoothing are not due to curvatures nor to elastic stresses in single crystals but to stresses appearing in masses of crystals overhanging snow layer. A value of less than 1 hr. was calculated for the time required for elastic stresses to act on a rod-like ice crystal 0.1 mm. in diameter and 0.35 mm. long standing on edge in a layer of similar crystals 0.3 gm./cc. in density and 40 cm. thick projecting 50 cm. horizontally over an edge. Elastic stress is effective only on ice grains of small diameter, since its effect reduces rapidly with increasing grain diameter, proportional to the 8th power of radius."-SIPRE. Copy seen: DLC.

49024. YOSHIDA, JUNGO. A study on the determination of liquid water content of snow by centrifuge. (Teionkagaku, Low temperature science, Sapporo, 1955, ser. A, no. 14, p. 55–75, illus., table, diagrs., graphs.) 4 refs. Text in Japanese. Summary in English.

"A method of separating liquid water from snow is described, and the results obtained are analyzed. Snow samples were placed in a fine-mesh wire cylinder and rotated in a collector with sloping walls at a constant temperature of 0° C. The water drained into an annular groove at the bottom of the collector. The performance of the centrifuge was tested by adding a known quantity of water to dry snow. From 60-70 percent of the water was separated in the first min. of rotation, decreasing to a constant rate of 0.1 cc./min. after 5 min. The rapidity of separation depended on the distribution of water in snow channels and the centrifugal force acting on it."-SIPRE. Copy seen: DLC.

YOSHIDA, SHIN, see Watanabe, G.-I., & S. Yoshida.

Climatic effect . . . output . . . 17kestosteroids. 1956. No. 48869.

49025. YOSHII, NAOSABURO, and others. Effects of hypothermia on the electrical activity of the brain, especially on the thalamo-cortical circuits. (Folia psychiatrica et neurologica japonica, 1955. v. 9, no. 2, p. 121–34, illus.) 34 refs. Other authors: Y. Koyasu, K. Okazaki, and Y. Hasegawa.

Account of investigations on electrocortical activity in hypothermic cats and dogs. Frequency of background potentials as related to temperature, effect of spontaneous barbiturate bursts and afterdischarges elicited by single volleys applied to the thalamus are followed and discussed. **Copy seen:** DNLM.

YOSHIMOTO, C., see Nei, T., & others. Protective . . . winter clothes . . . skin temperature . . . 1956. No. 46972.

YOU, ROSEMARY W., see Sellers, E. A., & R. W. You.

Deposition of fat in coronary arteries . . . exposure to cold. 1956. No. 47885.

49026. YOUNG, A. C., and others. Regional heat loss by temperature gradient calorimetry. Ladd Air Force Base, Alaska, November 1955. 13 p. illus. (U. S. Air Force. Arctic Aeromedical Laboratory. Project no. 8-7951; report no. 2.) 2 refs. Other authors: L. D. Carlson and H. L. Burns.

Contains description of a coverall type suit which measures heat loss by temperature gradient calorimetry, its recording equipment, and calibration data. The "suit" has been used since 1949 in laboratory and field tests; its advantages and disadvantages are discussed.

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49027. YUKON TERRITORY. LAWS, REGULATIONS, etc. Ordinances of the Yukon Territory passed by the Yukon Council in the year 1954, 1955. [White-horse] Queen's Printer, 1956. 2 v.: 600, 402 p.

Contains text of 63 ordinances passed in 1954, 68 in 1955. They deal with debts, protection of children, municipalities, taxes, motor vehicles, vessels, game, labor, public services, liquor licences, public holidays, power franchise, finances, education, medical and other professions, property, lumbering, archeological sites, marriages, deaths, noise, wills, administration of civil justice, etc.

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49028. YUKON TERRITORY. LAWS. REGULATIONS, etc. Schedule of unrepealed ordinances in force as of April 11, 1956. [Ottawa?] 1956. 8 p. Mimeographed.

Contains titles and chapter numbers (no text) of 151 ordinances passed by the Yukon Council from 1914 through 1956 (first sess.) and still in force, with amendments if any; those out-of-print are so indicated.

Copy seen: CaMAI.

ZABOEVA, IIA VASIL'EVNA, see Volin, V. Karta rodnoĭ zemli. 1956. No. 48794.

49029. ZABORSKI, BOGDAN, 1901—. Geographical aspects of migrations of ethnic groups in northern Eurasia. (In: International Geographical Union. Eighth General Assembly and Seventeenth International Congress, Washington, D. C., Aug. 8–15, 1952. Proceedings, pub. 1956? p. 555–59, 3 text maps.)

Migrations of various peoples from about the third millenium B. C. to the 17th century A. D. are reviewed, and the paths of migration are compared in their geographic aspects. Movements of the Tungus, Samoyeds, Ugro-Finns, Lapps, Yukaghirs, and Dolgans among others, are traced. In most cases these movements took place across open lands and followed boundaries between natural zones.

Copy seen: DGS.

ZACH, J., see Demling, L., and J. Zach. Temperatur und Acidität des Magens . . . 1956. No. 44587. ZACOUTO, F. see Coraboeuf, É., and others. Hypothermie et rechauffement rapide . . . l'animal. 1956. No. 44461.

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ZACOUTO, F., see also Lainé, P., and others. Hypothermie centrale rapide . . . 1956. No. 46214.

49030. ZAGŪ, A. Dizel'-ėlektrokhod "Ob'." (Morskof flot. Mar. 1956. t. 16, no. 3, p. 15–19, illus., drawing.) Text in Russian. Title tr.: Diesel-electric icebreaker Ob'.

Description and construction data for the ship and its equipment are given in detail with cross-section, deck plans, etc. The vessel has 12,600 tn. displacement, length 130.2 m., width 18.88 m., draft (in ice water) 7.62 m. The diesel-electric installation develops 7000 shaft hp. at 15.5 knots. The output of four main diesel generators is 5568 kw. with 400 volts of D. C. current at speed 360 rpm. The generators are directly driven by two-cycle, 8 cylinder, non-reversible Zulzer Diesel engines. The propeller's electric motor is operated with 800 volt D. C. current, and is connected in series with two main generator units. Fuel capacity for 15,500 miles. The sufficient welded hull has reinforced ice-breaker construction with specially strong icecutting bow, water-tight bulkheads and double bottom. Copy seen: DLC.

49031. ZAGOSKIN, LAVRENTIÏ ALEKSEEVICH, 1808–1890. Puteshestviß i issledovaniß leitenanta Lavrentiß Zagoskina v russkoï Amerike v 1842–1844 gg. Moskva, Gos. izd-vo geogr. lit-ry, 1956. 453 p. illus., plates, ports, maps (1 fold. in pocket) over 100 refs. Text in Russian. Title tr.: Travels and explorations of Lieutenant Lavrentiï Zagoskin in Russian America in 1842–1844.

Zagoskin's works relating to his travels in Alaska are reprinted, viz: Peshekhodnaîa opis', 1847, (cf. No. 19781) p. 32-322; meteorological observation tables are omitted, but illustrations are added, among them photographs (16 plates) of ethnographic objects collected by Zagoskin in Alaska and preserved in the Academy of Sciences and Moscow University. Articles on Siberia and Russian America, originally pub. in 1840-49 (p. 325-81). Four of them, with the title Zametki zhitelia togo sveta (Notes by an inhabitant of another world) (p. 325-72), reprinted from the magazine Matak, 1840-41, give a description of Zagoskin's journey from Petersburg to Alaska via Yakutsk and Okhotsk.

Biography of Zagoskin by M. B. CHERNENKO which opens the volume (p. 5-40) and a sketch of Zagoskin as explorer of ethnography in Alaska, by B. LIPSHITS (p. 385-98) appear in this Bibliography under these authors' names. Appended (p. 399-452) is a bibliography of Zagoskin's works and of works about him; a glossary of special local and obsolete terms which he used; indexes of personal and geographical names; and a brief description of his ethnographic collections. Copy seen: DLC.

ZAĬMIN, E. E., see Vasiliskov, P. A., and others. Izuchenie zazhorov . . . 1956. No. 48695.

49032. ZAİTSEV, F. K. Instrumenty dlâ zimnikh zemlânykh rabot. (Stroitel'-naß promyshlennost', Feb. 1938. t. 16, no. 2, p. 43–44, 9 illus., table.) Text in Russian. Translated by E. R. Hope for Canadian Defence Research Board. Directorate of Scientific Information Service, Sept. 1956. no. T 227 R. (Copy at CaMAI). Title tr.: Tools for winter earth work.

Deals with various types of bars, spades, rooters including two designed by Gorokhov and by the author, for use on frozen ground. Discussion is accompanied by drawings to scale. Copy seen: DLC.

ZAĬſSEV, V. see Denisenko, V. Vauli Neniang (Piettomin) . . . 1949. No. 44589.

ZAJÍC, F. Brod, J., and others. Changes
. . . renal haemodynamics and functions . . . cold stimulus. 1956. No.
44140.

49033. ZAKHAROV, A. I. Russkii narod, vydaûshchaûsîa natsiîa. (In: Akademiâ nauk SSSR. Tākutskii filial. Institut fâzyka, literatury i istorii. Vedushchaîa rol' russkogo naroda . . , 1955. p. 22–48.) Approx. 50 refs. Text in Russian. Title tr.: The Russian people, an outstanding nation.

Notes the integration of the peoples of the North into the Russian family of nations in the 15-17th centuries and the Soviet aid to the Yakuts during the post-Revolutionary foreign intervention.

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49034. ZAKHAROV, V. Na beregakh Obi. (Molodol kolkhoznik, July 1956. god 23, no. 7, p. 23, illus.) Text in Russian. Title tr.: On the banks of the Ob'.

Sketch of the life and achievements of the reindeer breeders' kolkhoz Rodina, at Nori (66°15′ N. 72°20′ E.) in Yamalo-Nenetskiy National District. The farm has some 11,000 reindeer and 150 silver foxes; the annual catch of fish amounted to over 3,000 cwt. in 1955.

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49035. ZAKHAROV, V. P., and O. P. CHIZHOV. O bor'be s ledânymi zatorami na Syr-Dar'e putem vzryvnykh rabot. (Meteorologifa i gidrologifa, Jan. 1956, no. 1, p. 44-45.) Text in Russian. Title tr.: Combatting the ice jam on the Syr-Darya River with explosives.

The process of ice accumulation is described in relation to various measures for its prevention, including the use of explosives in special cases. Control of the thawing of the ice cover is suggested: by dusting the ice surface with a black substance (soot, ashes, ground boiler slag, etc.) of high heat absorption, thawing of the ice can be accelerated.

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49036. ZALEKER, V., and N. B. PO-LUZADOV. Razmnozhenie i pitanie sobolia v prirode. (Okhota i okhotnich'e khozalstvo, Aug. 1956, no. 8, p. 25–26, tables.) Text in Russian. Title tr.: Propagation and feeding of sable under natural conditions.

Includes tabulated data on propagation of sable in the Karaginskiy District of Kamchatka, table 1. Copy seen: DLC.

ZALESKI, A., transl., see Uzin, S. Zagadkowe lądy. 1952. No. 48669.

ZALESSKIĬ, MIKHAIL DMITRIE-VICH, see Chirkova, E. F., and M. D. Zalesskiĭ. Sur . . . nouveaux végétaux permiens. 1938. No. 44344.

49037. ZAPOLÍANSKIĬ, ĨA. S. Nezamerzaûshchafa vodorazbornafa kolonka. (Vodosnabzhenie i sanitarnafa tekhnika, Feb. 1956. no. 2, p. 32–34, diagrs.) Text in Russian. *Title tr.:* Nonfreezing hydrant.

Construction details are given for water outlet with valves on a supply line laid underground for protection from freezing. The valve, manually operated from above and the pipe, connected with upper outlet, are drained through a small valve simultaneously with closing of the valve. The hydrant proved successful under severe winter conditions in Siberia

when drained water is readily absorbed by the ground. **Copy seen:** DLC,

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49038. ZARROW, MYER X., 1913—, and M. E. DENISON. Sexual difference in the survival time of rats exposed to a low ambient temperature. (American journal of physiology, Aug. 1956. v. 186, no. 2, p. 216–18, illus., table.) 13 refs.

In rats exposed to a temperature of  $2\pm 2^{\circ}$  C., sexual dimorphism in survival time appeared at the age of 60 days and was also observed in animals 120 days old. In both cases females survived much longer than males. Castration had no effect on females but prolonged the life of males. Estradial had no effect and testosterone proprionate shortened survival time. Copy seen: DNLM.

ZARROW, MYER X., 1913—, see also Denison, M. E., and others. Effect of castration . . . to cold on oxygen uptake of rat tissues. 1956. No. 44590.

49039. ZARUBINA, MARITA PAVLOV-NA, 1910— Poiski i vvedenie v kul'turu novykh lekarstvennykh rastenii. Riga, Izd-vo Akad. nauk Latvitskof SSR, 1952. 115 p. 21 illus. (Ministerstvo vysshego obrazovanita SSSR. Latvitskii gos. universitet. Botanicheskii sad.) 80 refs. Text in Russian. Title tr.: Search and introduction into culture of new medicinal plants.

Development of phytotherapy and cultivation of new medicinal plants in the U.S.S.R. are outlined (p. 5-15), and three such plants treated in detail (p. 16-112). Their pharmacological properties, botanical descriptions, cultivation. uses in popular medicine and in pharmacology are presented. Polemonium caeruleum, grows wild in Novaya Zemlya, Siberia and Alaska, its roots are used as a sedative and as a substitute for senega (Polygala senega) as an expectorant. Anisodus (Scopolia) luridus, known also as Himalayan scopolia, introduced from Nepal, is cultivated in northern European U. S. S. R. as a source (roots) of various alcoloides of the tropan group, chiefly for the manufacture of atropin and scopolamine. Erysimum canescens, a biennial cruciferous herb, grows wild in European U. S. S. R. and eastern Siberia, and is used (leaves) chiefly as heart stimulant. Copy seen: DLC.

49040. ZASHCHEPIN, A. N., and V. I. OVCHAROV. Morozostolkost' betona

s povyshennymi dobavkami khloristykh solel. (Beton i zhelezobeton, Dec. 1956, no. 12, p. 432–34, tables, graphs.) Refs. Text in Russian. *Title tr.:* Frostresisting concrete with a high content of chlorite.

Two types of Portland cement were selected for study: one with 9.5, the other with 6 percent tri-calcium-aluminite dissolved in different solutions of NaCl and CaCl2. Concrete made with the first cement was subjected to tests in a cold room at -20° C. during periods varying from 60 to 120 days; that with the second cement for 75 to 125 days under natural winter conditions. Results are tabulated and the temperature variation graphically shown. Specimens of both concretes were also tested under cyclic variation (100) of freezing and thawing conditions. The frost-resisting property varied with the concentration of ingredient and with the thermal condition of hardening, which are given in detail. Copy seen: DLC.

49041. ZATOKOVENKO, V. A. Geologicheskie nablūdeniā v ralone der. Tumchi v severnof Karelii. (Leningrad. Universitet. Uchenye zapiski, 1938. Seriā geologo-pochvennykh nauk. no. 26, vyp. 6, p. 104–118, illus., diagrs., 2 tables.) 7 refs. Text in Russian. Summary in English. *Title tr.:* Geological observations in the region of Tumchi village, northern Karelia.

Deals with a comparatively small area (300 x 200 m.), containing practically all representative types of local rocks (with the exception of peridotites) and indicating the interrelation of their ages. Granito-gneissic types predominate. Geological structures are briefly outlined. Earliest rocks are represented by the remnants of amphibolite in the gneissic granite. Petrographic descriptions of amphibolites and gneisses are given in detail. Metamorphic phenomena are described with illus. Copy seen: DLC.

ZAVADIL, R. J., see Barnes, D. F., and others. Gravity . . . bedrock and ice . . . topographies . . . ice cap. 1956. No. 43880.

ZAVADIL, R. J., see also Barnes, D. F., and R. J. Zavadil. Gravity . . . Greenland Ice Cap. 1954. No. 43879.

49042. ZAVALISHIN, A. Chto meshaet razvitiû okhotnich'ego promysla. (Okhota i okhotnich'e khozîsistvo, Feb. 1956,

no. 2, p. 11-12, illus.) Text in Russian. *Title tr.:* What is holding back the development of commercial hunting.

Scores the poor organization of commercial hunting in Krasnoyarskiy Kray, including its arctic and subarctic areas: lag in acclimatization and re-acclimatization of fur-bearers; uncertainty of the regulations, defects in supplying equipment, overlapping of various institutions dealing with hunting, lack of professional training of hunters. Copy seen: DLC.

49043. ZAVARITŠKIĬ, ALEKSANDR NIKOLAEVICH, 1884–1952. Izverzhennye gornye porody. Moskva, Izd-vo Akademii nauk SSSR, 1956. 479 p. illus., diagrs., figs., tables inel. 2 fold. Approx. 500 refs. Text in Russian. *Title tr.:* Igneous rocks. Editor: A. G. Betekhtin. Reprinted without change from the first edition pub. posthumously in 1955.

Contains general characteristics, classification and monographic description of igneous rocks. Described samples of rocks are from various parts of the world, including Kola Peninsula (p. 161, 216, 221, 223, 317, 337, 362, 397, 412, etc.), Northern Ural (p. 160-65, 214-15, 220, 225, etc.), Podkamennaya Tunguska River basin (p. 178), and Kamchatka (p. 238, 242, 252, 258-59, etc.). Bibliography of Russian and foreign literature (approx. 500 items), indexes of rock names and of petrographic and geologic terms are appended.

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49044. ZAVATTI, SILVIO, 1917— . Le "isole di ghiaccio" del mare Artico e le stazioni scientifiche alla deriva. (Società Geografica Italiana. Bollettino, Sept-Oct. 1956. ser. 8, v. 9, fasc. 9–10, p. 444–52, 2 text maps.) 9 refs. Text in Italian. Summary in English. Title tr.: The ice islands of the Arctic Ocean and the scientific drifting stations.

Brief account of the discovery of the islands by American, Canadian, and Russian fliers; their origin attributed to Ellesmere Island glaciers or ice shelf; activities of the Soviet drifting stations North Pole 1–5, 1937–1955; U. S. stations on ice island T–3, and Operations Skijump I and II; existence of a current between 75° N. and the North Pole.

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ZEIT, WALTER, 1898—, see Benjamin, H. B., and others. Hypothermia by internal cooling. 1956. No. 43958. 49045. ZENIN, V. Peredova â brigada pechorskogo basselna. (Master uglfa, Jan. 1956. t. 5, no. 1, p. 3-5, illus, table.) Text in Russian. *Title tr.*: Advanced brigade of the Pechora Basin.

Systematically planned production work of the so-called advanced brigade in the Pechora basin coal mines is described in detail. The brigade consists of eleven skilled miners equipped with modern, mechanical, labor-saving devices. Cyclic variation in work of each of three shifts, arranged according to the production chart, is set forth.

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49046. ZENKEVICH, LEV ALEKSAN-DROVICH, 1889- . Biologicheskie osnovy promyslovogo ispol'zovanifa okeana. (Priroda, Jan. 1956. god 45, no. 1, p. 35–45, 12 illus. incl. text maps.) Text in Russian. *Title tr.:* Basic biological data for the industrial utilization of the ocean.

Attempt is made at a qualitative and quantitative appraisal of the world ocean's faunal resources: marine mammals, fishes, planktonic and benthic organisms, etc. Data are presented on the distribution of oceanic fauna and the biological structure of the ocean. The importance of biological study for systematic utilization of these resources is stressed. The study includes data on northern waters.

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ZENKEVICH, N., see Isaeva, A., and others. Issledovateli glubiny. 1956. No. 45722.

49047. ZENKOVICH, VSEVOLOD PAVLOVICH. O prichinakh raznoobrazifa tipov beregov dal'nevostochnykh morel. (Akademifa nauk SSSR. Doklady. May 1, 1954, nov. ser., t. 96, no. 1, p. 59-61, diagrs.) 6 refs. Text in Russian. Title tr.: Causes of variation in types of the coast of Far Eastern seas.

The results of expeditions of the Institute of Oceanology of Academy of Sciences U. S. S. R., in this area, also in part, of air surveys, are summarized with respect to a general classification of types of seacoasts and causes of their variation. Four basic types are considered: (1) seacoast eroded in hard rocks (fiords and smooth coasts); (2) straight seacoast abraded in soft Quaternary and Pliocene deposits; (3) depositionary, smooth seacoast; and (4) lagoonic coast. The character of each type is shown on p. 61.

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ZENKOVICH, VSEVOLOD PAVLO-VICH, see also Obruchev, S. V. Spravochnik puteshestvennika . . . 1949-50. No. 47123.

49048. ZETTERSTRÖM, BIRGITTA. The effect of light on the appearance and development of the electroretinogram in newborn kittens. (Acta physiologica scandinavica, 1956. v. 35, fasc. 3–4, p. 272–79, illus., table.) 13 refs.

The appearance of the ERG in kittens bred in darkness was found to be considerably delayed in the majority of cases. The latent period of the b-wave was likewise prolonged in comparison with animals bred in light. The significance of these findings is discussed.

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49049. ZHELEZNODOROZHNYĬ TRANSPORT. Svoevremenno zavershit' podgotovku transporta k otlichnof rabote v zimnikh usloviâkh. (Zheleznodorozhnyĭ transport, Sept. 1956. god 38, no. 9, p. 3-7). Text in Russian. Title tr.: Well-timed preparation of transport facilities for efficient winter work.

Editorial appeal to local railroad administrators and workers to speed up preparations against severe winter conditions, as snow drifts are more easily prevented than removed. During the previous winter, snow removal operations required 1,100 locomotive-days, 200,000 men and cost 300 million rubles. By 1960, it is planned to build 660 new heavy-and medium-duty snow removers, expand the planting of shelter belts and erection of snow shields along railroads.

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49050. ZHERBIN, ALEKSEĬ STEPA-NOVICH. Pereselenie karel v Rossiñu v xvii veke. Petrozavodsk, Gos. izd-vo Karelo-Finskoĭ SSR, 1956. 79 p. (Akademiâ nauk SSSR. Karelo-Finskiĭ filial. Institut îazyka, literatury i istorii) Approx. 100 refs. Text in Russian. Title tr: The migration of the Karelians to Russia in the 17th century.

Includes (p. 9, 18–21) description of the unsuccessful Swedish attempts to cut off Russian access to the White and Barents Seas, especially the Kola campaign of 1611, the siege of Kholmogory, Arkhangel'skaya Oblast', in 1613 and the retreat along the littoral of the Onezhskil Zaliv. The migration route of a part of the uprooted Karelian population from the Lake Ladoga region to Rebola and

thence to the Onega and Severnaya Dvina Rivers is mentioned (p. 68). Copy seen: DLC.

49051. ZHILIN, S. Reki nashel rodiny. Moskva, Gos. izd-vo detskol literatury. Ministerstvo Prosveshchenia RSFSR, 1952. 125 p. illus., maps. Text in Russian. *Title tr:* Rivers of our native land.

Popular account of the main river systems including (p. 71-85) those of Siberia (Yenisey, Ob', Lena); sketch is given of M. M. Davydov's project for the formation of an artificial sea between these rivers, by construction of system of dams with hydro-electric plants, and channels for the irrigation of southern desert lands (p. 71-85). Copy seen: DLC.

49052. ZHILISHCHNO-KOMMU-NAL'NOE KHOZIAĬSTVO. Rotorny<sup>I</sup> tramvaĭny1snegoochistitel'. (Zhilishchnokommunal'noe khoziaIstvo, 1956. god 6, no. 2, p. 16, 2 illus.) Text in Russian. Title tr: Rotary snow-remover street-

Contains description and illus. of a rotary arrangement attached to a special streetcar as substitute for the arrangement with brushes. This snow remover found satisfactory for out-of-the-city work, snow cover 1 m. and higher, and speed of 1-6 km./hr. Copy seen: DLC.

49053. ZHITIN, N. P., and others. Ploty dlû krupnykh vodokhranilishch. (Lesnaû promyshlennost', Apr. 1956. god 34, no. 4, p. 21–27, tables, illus.) Text in Russian. Other authors: A. A. Gonik, L. P. L'vov, and M. M. Soloveſchik. Title tr: Rafts for large water basins.

A new situation in rafting logs over long waterways, such as the Volga, Yenisey, Ob', Angara, etc., has been created by hydro-electric plants. The size and type of construction of the rafts are restricted by the size of locks and by the appreciable waves on water basins above the dams. A new method of log bundling with additional reinforcements is described with illus. Copy seen: DLC.

49054. ZHUKOVETS, A. Peremychka iz iskusstvenno zamorozhennogo grunta dlía ograzhdenia kotlovana sukhogo doka. (Morskof flot, May-June 1945. god 5, no. 5-6, p. 24-28, table, graphs, diagr.) Text in Russian. Title tr: Cofferdam of artificially frozen ground for protection of a drydock foundation pit.

Construction of the Murmansk dry dock is described with illus. The dock wall of sandy soil mixed with silt and slurry sediments was frozen to prevent seepage of ground water, by sets of pipes connected with two refrigerating installations. The wall strength at  $-12^{\circ}$  C. is estimated as 120 kg./cm², and at  $-5^{\circ}$  C. about 50 kg./cm². Water tightness was maintained throughout. The time required for wall freezing is about four months. Copy seen: DLC.

49055. ZHURAVLEVA, M. M., and V. E. RAKOVSKII. Izmenenie drevesiny v profesese obrazovanifa iskopaemogo tverdogo topliva. (Akademifa navuk BSSR, Minsk. Instytut torfa. Trudy, 1953. t. 2, p. 59–67, table.) 14 refs. Text in Russian. Title tr.: Change in wood pulp in the process of formation of fossil solid fuel.

Peat formation as a biochemical process is analyzed in relation to the activity of the microorganisms. The complexity of process varies according to the types of vegetation materials involved in the formation of the peat. The hydro-carbon content gradually reduces and the non-hydrolyzing residue and humic acid increase. Composition of the lignite varies according to the original materials and the manner of disintegration of the vegetative components.

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49056. ZIEGER, HEINZ. Knud Rasmussen. Braunschweig, G. Westermann, 1949. 74 p. (Helden des Friedens) Text in German.

Brief account of Rasmussen's life (1879–1933), with the story of his explorations in Greenland (as the Great Sledge Trip of 1923–1924) in Canada and Alaska on the Fifth Thule Expedition. His studies of the Eskimos and their life are noted.

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49057. ZIEGLER, GÜNTER. Winterwanderungen mit der Kamera. (Bild und Ton, 1956. Jahrg. 9, Heft 1, p. 14–16, illus.) Text in German. *Title tr.:* Winter travels with the camera.

Contains instructions for photographing snow landscapes. Bright sunlight, contrast, and a bright yellow filter are recommended. Copy seen: DLC.

**49058. ZIEMKE, PAUL C.** Use electric heat to speed thawing of frozen pipes. (Chemical engineering, Jan. 1956. v. 63, no. 1, p. 214-16, diagr.)

Contains diagram and discussion of method for thawing frozen pipes by use of 2,300 to 120-volt transformers. By connecting the primaries of two or more transformers in series, the output voltage can be reduced to 60 v. with two transformers or 40 v. with three. Then by connecting the secondaries in parallel, sufficient output capacity can developed for thawing. Another method consists of using an arc welding machine. Copy seen: DLC.

ZIKEEV, NIKOLAY T., see Thuronyi, G., and others. A selective . . . bibliography . . micrometeorology of snow cover. 1956. No. 48392.

49059. ZIKEEV, NINA ALEKSEEVNA (STEPANOVA), 1906- . Selective annotated bibliography on synoptic meteorology of the Arctic. (Meteorological abstracts and bibliography, Jan. 1956.

v. 7, no. 1, p. 79-123.)

Second in a series of five selective bibliographies on climatology and meteorology of the Arctic (cf. No. 37032). Contains 225 references to study of atmospheric circulation in arctic regions and to sources of information on forecasting services, weather stations, synoptic networks, etc. Some general works on global and Northern Hemispheric circulation, with good data for arctic regions are included, also a few purely aerological studies and works on sea-ice forecasting. Works specifically on climate or aerology of particular sectors will be listed in subsequent bibliographies in this series. The references, listed chronologically 1875-1955, (about one-third 1950-1955) have annotations ranging 35-150 words. Subject and geographic indexes are provided. Copy seen: DLC.

ZILIOTTO, D., see Westin, B., and others. Na<sup>24</sup> clearance . . . hypo- and hyperthermic rats. 1956. No. 48921.

ZILIOTTO, D., see also Westin, B., and others. On . . . clearance of radiobromide . . . 1956. No. 48922.

49060. ZIMIN, A. A. Sostav russkikh gorodov xvi v. (Akademifa nauk SSSR, Istoricheskie zapiski, 1955. t. 52, p. 336-47.) Refs. Text in Russian. Title tr.: List of Russian towns in the 16th century.

Lists, by region, Russian towns of the first half of the 16th century (including Kholmogory, Arkhangel'skaya Oblast') and those founded or acquired in the second half, including: Kola, Pinega, Arkhangel'sk, Mezen' (Arkhangel'skaya Oblast'). Obdorsk (now Salekhard) and Berezovo on the Sos'va River (Omskaya Oblast'), etc. Data on their founding and reasons for the rise of trading centers in the North are given.

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49061. ZIMM, ALFRED. Zu einigen Problemen der geographischen Verteilung der Produktion im sechsten Fünfjahrplan zur Entwicklung der Volkswirtschaft der UdSSR. (Zeitschrift für den Erdkundeunterricht, 1956. Jahrg. 8, Heft 11, p. 321-36, text map, tables.) 8 refs. Text in German. Title tr.: Some problems of geographical distribution of production in the sixth Five Year Plan for the development of the political economy of the U.S.S.R.

Includes northern U. S. S. R. in discussion of coal reserves and production, iron ore reserves and metallurgical industry, water power potential and construction of power stations, petroleum reserves and

industry, railway lines.

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ZINCHENKO, V. D., see Birula, A. K., and V. D. Zinchenko. O primenimosti modula deformatsii . . . 1955. 44029,

49062. ZINDLER, M. Fortschritte und Erfahrungen mit der vegetativen Blokkade und der künstlichen Hypothermie. (Archiv für klinische Chirurgie, 1955. Bd. 282, p. 187-92, illus., table.) 21 refs. Text in German. Title tr.: Advances and experiences with vegetative blockade and artificial hypothermia.

Contains information on new neuroplegic drugs, degrees of hypothermia and their application in surgery, artificial hibernation, advances in hypothermia in

Germany, techniques, etc.

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49063. ZINGER, MAKS ÉMMANUI-LOVICH. Kamchatskie pamiatniki. (Ogoněk, Nov. 1956. god 34, no. 47, p. 27, illus.) Text in Russian. Title tr.: Monuments in Kamchatka.

Notes views in Petropavlovsk and its numerous monuments; photographs include memorial chapel to victims of the English-French attack in 1845 monument to Bering and Chirikov.

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49064. ZINGER, MAKS ÉMMANUI-LOVICH. Kapitanskii chas. (Vokrug sveta, July 1956, no. 7, p. 6-7, illus.) Text in Russian. *Title tr.:* Captain's hour.

Sketch of activities of a whaling fleet (Aleut?) operating in Kuril Islands and Kamchatka waters. Copy seen: DLC.

49065. ZINGER, MAKS EMMANUI-LOVICH. V more, v tundre, v taíge; zametki v puti. (Okhotnich'i prostory, 1955. kniga 5, p. 281-87, illus.) Text in Russian. *Title tr.:* At sea, in the tundra and taiga; traveler's notes.

Brief popular sketches of wildlife in various parts of the U. S. S. R., including bird colonies on Novaya Zemlya; squirrels (seen from aircraft) swimming across the Lena River, dog driving in lower Kolyma basin, etc. 

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ZINOVA, ANNA DMITRIEVNA, see Zinova, E. S. Vodorosli . . . Ledovitogo okeana. 1956. No. 49066.

49066. ZINOVA, ELENA STEPA-NOVNA, 1874–1942. Vodorosli Severnogo Ledovitogo okeana. (Akademiña nauk SSSR. Botanicheskii institut. Trudy, ser. 2, Sporovye rasteniîa, 1956. vyp. 11, p. 39–51.) Text in Russian. Title tr.: Algae of the Arctic Ocean.

Contains a systematic list of 39 species and 13 forms (in 23 families and 27 genera) of blue-green (Cyanophyta), green (Chlorophyta), brown (Phaeophyta) and red (Rhodophyta) marine Based on collections in various arctic waters: Severnaya Zemlya (Domashniy Island), Vize Island (79°31' N. 76°41′ W.), Franz Josef Land, Malyy Lyakhovskiy Island (Laptev Sea), Russkaya Gavan' on Novaya Zemlya, also a few other localities. Synonyms, descriptive notes and data on habitat and distribution are given. This posthumous paper was prepared from the unfinished manuscript by A. D. Zinova.

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49067. ZISSER, VLADIMIR PAVLO-VICH, 1895–1955. Razvitie okhotnich'ego khozíalstva v Chukotskom natsional'nom okruge. (Ratsionalizatsifa okhotnich'ego promysla, 1956, vyp. 5, p. 65–70, tables.) Text in Russian. Title tr.: Development of the hunting industry in the Chukotsk National District.

The area of this northeasternmost district in the U. S. S. R. covers 711,000 sq. km.; 76.3 percent of it tundra, and the remainder tundra forest and taiga. Hunting and trapping of arctic fox (76

percent of the total catch), squirrel, ermine, fox, otter, wolverine, wolf, snow hare, elk, and wild reindeer, also of recently acclimatized muskrat and sable, play a significant role in the district economy. Tabular data are offered on hunters' equipment and their catch in the Kolyma and Chukotsk regions; also on the ratio of collective farms' income from hunting and from other sources. Means of furthering the hunting industry are discussed: collectivization, improvement of transport, increase in prices for delivered furs, and better supply of equipment, sled dogs, etc.

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49068. ZITEK, RUDOLF von. Wenn Wasser zu Eis wird. (Orion, Feb. 1956. Jahrg. 11, no. 3-4, p. 121-25, illus.) Text in German. *Title tr.:* When water turns into ice.

Contains information on water temperature and specific weight; freezing, and its effect on rock weathering and soil formation; perennial ice, permafrost, and other forms of ice; glaciers; etc.

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49069. ZIZA, ANDREĬ ANDREEVICH. Kompleksnoe ispol'zovanie torfûnykh bolot v sel'skom khozfalstve. (In: Akademiûn navuk BSSR, Minsk. Instytut meliûratsyi, vodnat i balotnaf haspadarki. Trudy, 1953. t. 2, p. 101–110, tables.) Text in Russian. Title tr.: Maximum utilization of peat bogs in agriculture.

Contains information supplemental to author's Torf v sel'skom khoziātstve (No. 43443) on peat and its combinations as fertilizers for various crops planted in an experimental field: barley, oats, cabbage, carrots, beets, etc. Copy seen: DLC.

49070. ZIZA, ANDREĬ ANDREEVICH, and M. N. NIKONOV. Sel'skokhozſaīstvennoe ispol'zovanie torfſanykh bolot. Moskva, Gos. izd-vo sel'skokhoz. lit-ry, 1955. 183 p. illus., tables, diagr. Text in Russian. *Title tr.:* Agricultural utilization of peat bogs.

Genesis of marshland (also formation of peat moss) is briefly described; its distribution in the U. S. S. R. and agrochemical characteristics are shown (map and tables 1–5). Drainage system and mechanized equipment for various operations are described with illus. (p. 41–59). The uses of different peat soils for specific crops of peat moss as fertilizer are explained with reference to their agro-

chemical and physical characteristics (p. 59-140, tables 7-21). A mixture of manure and fibrous peat is used as biological fuel in hothouses, the thermal reaction of which sustains a high temperature for a long time. Mass production of humus peat pots for forcing vegetables is described (p. 149-50), also other agro-technical applications of peat.

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49071. ZLATOGOROV, MIKHAIL. Na severe dal'nem. (Smena, Sept. 1956. god 33, no. 18, p. 1-3, illus.) Text in Russian. *Title tr.*: In the far North.

Journalist's sketch of a trip to Kola Peninsula: the towns of Murmansk, Monchegorsk, Olenegorsk; the diesel-motorboat Gogoi', best equipped trawler of the Soviet fisheries, etc. Copy seen: DLC.

49072. ZLATOGOROV, MIKHAIL. Poezdka v Pechengu. (Ogoněk, Dec. 1956. god 34, no. 50, p. 13–14, illus.) Text in Russian. *Title tr.:* A trip to Pechenga.

Journalist's sketch of an overland trip to the new settlement of Zapolyarnyy at a nickel ore deposit recently discovered by Soviet geologists in the Pechenga region: road, landscape, large-scale construction, open-pit mining, young communists at work, etc. Copy seen: DLC.

**49073. ZLATOGOROV, MIKHÁIL.** The tundra changes its face. (News, Sept. 1, 1956, no. 17 (123), p. 20–21, illus.)

Recounts visit to industrial sites on Kola Peninsula: Murmashi (68°49′ N. 32°52′ E.) on the Tuloma River, whose hydroelectric power installation controls most stations on the peninsula; the iron ore (magnetite and hematite) mines and oredressing plant at Olenegorsk; and further south, richer iron mines near Kovdozero (66°40′ N. 32°10′ E.), also Monchegorsk (67°55′ N. 32°59′ E.) with its nickel, copper and cobalt processing plants. Description of settlements and industrial resources is included.

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49074. ZLOBIN, ANATOLII. Reportazh s naplavnogo mosta. (NovyI mir, Aug. 1956. god 32, no. 8, p. 3–17.) Text in Russian. *Title tr.*: An eye-witness account from a floating bridge.

Describes final stage of building the dam across the Angara River for the Irkutsk hydro-electric station and its completion on July 10, 1956.

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49075. ZNANIE-SILA. Kapkan pod kryshel. (Znanie-sila, Apr. 1956, no. 4, p. 40-41.) Text in Russian. Title tr.: Trap under the roof.

Note on fox trapping in the tundra of Nenets National District by a Samoyed hunter: to prevent the trap being buried by drifting snow, it is protected by a thin crust of frozen snow. *Copy seen:* DLC.

49076. ZNANIE-SILA. Kraĭ sotŝialisticheskogo sozidanita. (Znanie-sila, June 1956, no. 6, p. 3-6, illus.) Text in Russian. Title tr.: Country of socialist construction.

Sketches economic and industrial developments in Siberia: discoveries of diamond-bearing fields in the (Nizhnyaya?) Tunguska River basin in Yakutia, coal deposits at Noril'sk in Yakutia and the Tungusskiy Bassetn (middle Yenisey), etc.

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49077. ZOLOTAR', M. L. Razvedka Takhtarvumchorrskogo mestorozhdenifa molibdenita. (In: Khibinskie apatity, 1933. t. 6, p. 139–41.) Text in Russian. Title tr.: Investigation of the Takhtarvumchorr deposits of molybdenite.

Geological and mineralogical characteristics of molybdenite deposits are described. The central part of the pegmatite has economic possibilities with a greater concentration of the molybdenite, than the border zones. Approximate capacity of deposits of categories A2, B and C is about 143,000 tons of metallic molybdenum. Survey of this region is continued by underground work in veins of the first and second cirque and by specific search in the vertical walls of the cirque.

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ZOLOTAREV, ALEKSANDR MIKHAĬ-LOVICH, 1907-, see Ivanov, S. V., and others. Nivkhi. 1956. No. 45740.

ZOLOTAREV, ALEKSANDR MIKHAĬ-LOVICH, 1907-, see also Ivanov, S. V., and others. Ul'chi. 1956. No. 45744.

49078. ZOLOTUKHIN, A. A. Direktivy XX s''ezda KPSS po shestomu pfatiletnemu planu i zadachi gidrometsluzhby. (Meteorologifa i gidrologifa, Sept. 1956, no. 9, p. 3–11.) Text in Russian. *Title tr.:* Directives of the 20th Congress of KPSS on the sixth fiveyear plan and hydrometeorological problems.

The program proposed by the Communist Party of Soviet Union for 19571961 is reviewed in respect to improvements in hydrometeorological services and observations, including those in the Arctic. Extension is recommended of the hydrological net in the Ob', Yenisey, Lena, Amur and other basins, specially for observation of spring run-off, summer floods, precipitation, temperature fluctuation, etc. Suggestion is also made for improvements: in hydrometeorological services in the North Atlantic for the fishing industry and the Navy; in weather and ice boundary forecasts for the Barents, Bering and Okhotsk Seas. especially in fishing zones. Methods of forecasting and work of weather station personnel in Central Siberia, including Yakutsk, must be improved; their facilities must be increased and 300 new hydrometeorological stations, 1450 new observation posts and 600 hydrological points included in the hydrometeorological system for large water reserves. Methods for more uniform and systematic recording of data must be changed also to meet requirements of the automatic computing technique for speedy publication of data. Attention should be given to the development of theory on climates, thermal balance in the atmosphere and surface layer; on physics of clouds and precipita-Special research is recommended for IGY. in the field of atmosphere circulation; three-dimensional analysis of atmospheric conditions in a large space; study of physical phenomena in the troposphere and stratosphere; in variation of ocean currents; thermal and chemical conditions of sea water, etc.

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49079. ZOTOV, P. P. K mineralogii lovehorritovykh mestorozhdenif. (*In:* Khibinskie apatity, 1933. t. 6, p. 112–14.) Text in Russian. *Title tr.:* Mineralogy of the lovehorrite deposits.

Mineralogy of two veins in the Yukspor ridge is analyzed. Size, composition, location and arrangement of deposit components are noted: minerals identified are feldspar, aegirite with hornblende, lovehorrite and nepheline, in addition to apatite, astrophyllite, sphene, sphalerite, galena, lepidomelane, eudialite, rinkolite and morphological and mineralogical natrolite. Difference in contents of the two veins is attributed to one being in a 150 m. lower position than the other. Erosion of the lovehorrite in this region is found to be of considerable magnitude.

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49080. ZSÓTÉR, TAMÁS, and M. SZABÓ. Érreakciók potenciált narkosis és hypothermiában. (Kísérletes orvostudomány, 1956. 8 évfolyam, no. 3, p. 237–42, illus.) 17 refs. Text in Hungarian. Summaries in Russian and German. Title tr.: Blood vessel reaction during potential narcosis and in hypothermia.

Account of observations on the vessels of the mesoappendix of the rat. In cases of hypothermia there was no reduction of vasal activity, not even at a rectal temperature of 25° C. Other blood vessel areas appear to show similar behavior.

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49081. ZSÓTÉR, TAMÁS, and M. SZABÓ. Vasoreaktionen in potenzierter Narkose und Hypothermie. (Zeitschrift für die gesamte experimentelle Medizin, 1956. Bd. 127. Heft 2, p. 113–20, illustables.) 18 refs. Text in German. Title tr.: Vasal reactions during potentiated narcosis and hypothermia.

Report of an investigation on the vascular reaction in the mesoappendix of rats in potentiated narcosis or a  $\pm 28^{\circ}$  C. hypothermia. During the latter no fall of vascular activity was observed following administration of adrenaline, noradrenaline, pitressin or barium-chloride. Copy seen: DNLM.

49082. ZUBĪĀN, G. D. Planetarnafa frontal'nafā zona v nizhnel stratosfere. (Meteorologifā i gidrologifā, Sept. 1956. no. 9, p. 12–21, table, maps, charts.) 10 refs. Text in Russian. *Title tr.:* Planetary frontal zone in the low stratosphere.

Account based upon an analysis of temperature fields on the isobaric surfaces of 500, 300, 200 and 100 mb. and upon vertical profiles, all made during May 1955, in the Northern Hemisphere. It is concluded that the weather fronts frequently penetrate into the lower stratosphere where they create similar synoptic changes. The significance of this condition for rain formation and for aviation is pointed out.

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ZUBOV, NIKOLAĬ NIKOLAEVICH, 1885- , see Centkiewicz, A., and C. J. Centkiewicz. Zavoevanie Arktiki . . . 1956. No. 44300.

ZUBOV, NIKOLAĬ NIKOLAEVICH, 1885– , see also U. S. S. R. Komitet SSSR po provedenin 2-go MPG. Gidrologicheskie . . . morskikh ėkspedi sii . . . 1937. No. 48513. 49083. ZVEREVA, O. S., and others. Rybnye bogatstva Komi ASSR i puti ikh osvoenifā. Syktyvkar, Komi knizhnoe izd-vo, 1955. 106 p. illus. tables, maps. 8 refs. Text in Russian. Other authors: E. S. Kuchina and L. N. Solovkina. Title tr.: Fish resources of Komi ASSR and ways of their utilization.

Following an introductory chapter on the geology and physiography of this area, the authors describe the more important fishing rivers and their tributaries; sources and kinds of fish-food; the fishes (in taxonomic order), their ecology, distribution and migration, size, economic value, etc.; fisheries of the Pechora and Vychegda, fishing areas and seasons, kinds and quantities caught, etc.; fishing brigades and their leaders, protective measures; fishing methods and gear.

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49084. ZVONKOV, V. V. Korabli, atomokhody. (Ogoněk, Feb. 1956. god 34, no. 6, p. 6.) Text in Russian. *Title* 

tr.: Atom-powered ships.

Interview with corresponding member of the Academy of Sciences, V. V. Zvonkov, on the significance of the atompowered ice-breaker, to be built in the 6th five-year-plan; the power and heat generated by the engine, economy of space and voyages uninterrupted for refuelling are stressed. The atom-powered ice-breaker is expected to extend navigation period and range on the Northern Sea Route.

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**ZVONKOVA, T. V.,** see Obruchev, S. V. Spravochnik puteshestvennika . . . 1949–50. No. 47123.

ZVORYKIN, K. V., see P., Z. Fizikogeograficheskoe rafonirovanie severa . . . 1956. No. 47220.

**ŻYGULSKA-MACHOWA, HELENA,** see Szafran, L., and others. Wpływ przewlekłej narkozy luminalowej . . . 1956. No. 48326.

**49085. ZYKOV, I.** Slovo o lesakh. (Vokrug sveta, Aug. 1956, no. 8, p. 1–6, illus.) Text in Russian. *Title tr.:* A word about forests.

Discusses problems of forest economy and inter-relation of forest use and renewal. In many northern areas cutting lags behind growth: in Arkhangel'sk Province, of some 73 million cu. m. of timber ready annually, only 15–17 millions are cut.

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49086. ZYRIN, A. Leksikograf i zhizn'. (Neva, Mar. 1956, no. 3, p. 188.) Text in Russian. Title tr.: Lexicog-

rapher and life.

Describes an 8,000-word Nenets (Samoyed)-Russian dictionary recently published in Leningrad compiled by Natalia Mitrofanovna Tereshchenko; a scientist at the Academy of Sciences U. S. S. R., she took part in many expeditions to the Yamal Peninsula, Bol'shezemel'skaya and Malozemel'skaya tundras to collect data on the Nenets language and dialects. This dictionary is to be used as reference book for the official orthography of Nenets words. cf. No. 36945, an earlier, Russian-Nenets dictionary.

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## LANGUAGE SYMBOLS ATTACHED TO TITLES IN INDEX

Titles of all publications indexed in this volume are represented by key words in English, regardless of the language of their text. The latter is indicated by a single letter following the publication date.

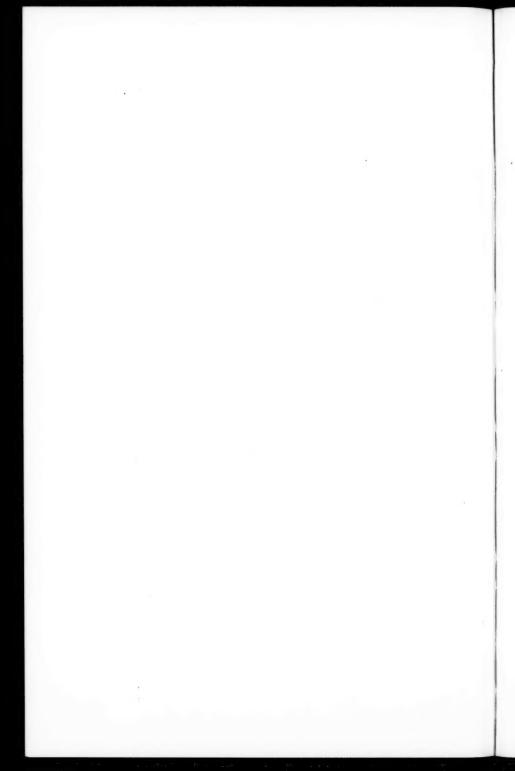
B—Bulgarian	J—Japanese
Cz-Czech	L—Latin
D-Danish	La-Latvian
Du—Dutch	Li-Lithuanian
E-English	Lp-Lappish
Es-Eskimo	N-Norwegian
F-French	P—Polish
Fi-Finnish	Port—Portuguese
G-German	R—Russian
Gr—Greek	Ro-Romanian
H—Hungarian	S—Swedish
He—Hebrew	S-C-Serbo-Croatian
I—Italian	Sp-Spanish
Ic—Icelandic	U—Ukrainian

\*-Basic work

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